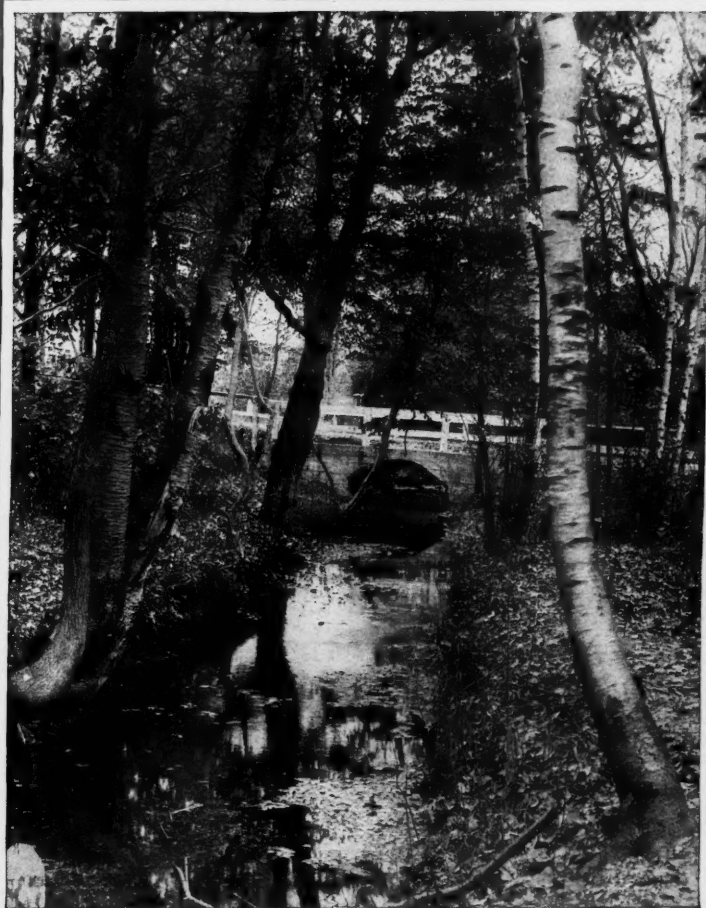


THE DENTAL DIGEST



SEPTEMBER 1917

VOL. XXIII NO. 9

EDITED BY

GEORGE WOOD CLAPP, D.D.S.

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THE DENTISTS' SUPPLY CO.

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THE DENTAL DIGEST

Vol. XXIII

SEPTEMBER, 1917

No. 9

BEHIND THE LINES OF VERDUN

BY ALONZO MILTON NODINE, D.D.S., NEW YORK

Oral Surgeon and Dental Consultant, French Hospital of New York; Assistant Dental Radiologist, New York Throat, Nose, and Lung Hospital. Late Oral and Dental Surgeon, The Hôpital Française de New York Hôpital No. 32 bis. Passy par Veron (Yonne) France.

FIFTH PAPER (CONCLUSION)

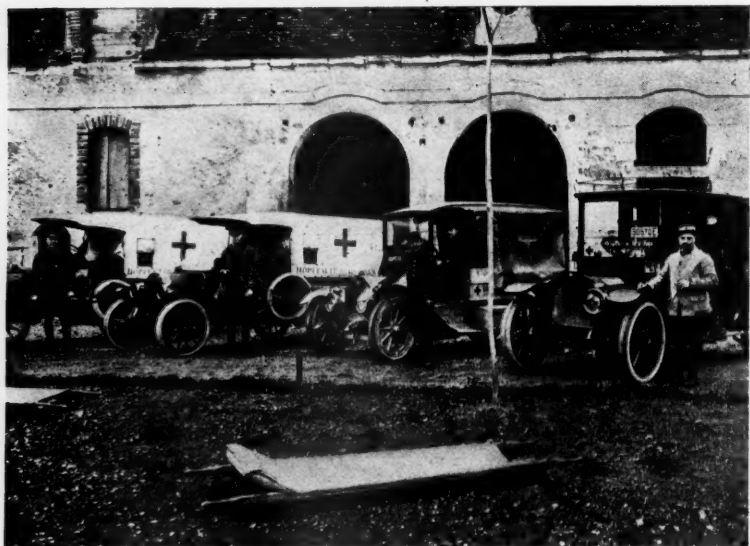
The impression seems to prevail that work in a base hospital is one ceaseless effort. This idea is a mistake. The organization of the hospital service for the French wounded is the following.

As previously indicated Hôpital Française de New York received its wounded from Verdun. The region in which the hospital is located is known as the Fifth Region. In this region are a number of hospitals scattered through small towns and villages with a total capacity of 16,000 beds.

Every week, sometimes twice a week, our hospital was inspected. The patients were examined and a list made of those patients who were in such condition of convalescence, that in the event of a serious engagement, they could be sent to hospitals farther south, to make room for the anticipated wounded. This list was usually made out by the médecin chef of the hospital and later changed or added to by the inspector of the region. This list was made up of two classes of wounded, *assis*, or those that could walk, and *couches*, those who must be carried on stretchers.

When a serious engagement is planned or expected, an order is sent out to the hospitals in the region in which the engagement is to take place, to evacuate a specified number of blessés. This number usually coincides with that of the list made out by the inspector of the region. The Chef of the Service de Santé in this region, then knows that when the engagement does take place there will be ready for immediate reception of wounded—let us say, for example, in this fifth region, ten thousand beds. When the work of distributing the wounded takes place either by sanitary trains or ambulances each hospital is notified by telephone to prepare to receive and to take care of a certain number of wounded.

If after a hospital has been evacuated of a certain number of wounded and the expected engagement is either postponed or does not take place—then the hospital is left with but a few wounded and little work for the staff to do. Such a condition may last for weeks—then without any hint or warning the telephone bell will ring and we will be instructed to meet the sanitary train with our ambulances for the reception of let us say, as actually occurred, sixty blessés, at eight P. M.



Ambulances ready to go for wounded

In our hospital after the receipt of such a message this médecin chef orders large chaldrons of water to be heated. With this the wounded on their arrival at the hospital are washed and bathed. Then stretchers are placed in the ambulances. Beds prepared in the reception ward and everything made ready for the reception of the blessés. The ambulances then start for the railroad station and line up in a convenient place.

The stretchers are gotten out stacked on the station platform to exchange for those upon which the blessés are carried from the train. Awaiting the arrival of the sanitary train is a time of anticipation and speculation as to the nature of the wounds to be dealt with. When the train comes into the station and stops, it does so without a jar or a jerk—as smoothly as one's hand slips into one's pocket.

The wounded are most carefully removed from the train and placed

in a row on the platform. The stretchers are exchanged and the médecin chef of the hospital gives the médecin chef of the train a receipt for the number of wounded received. Then the train moves on to another station where the remaining wounded are distributed to other hospitals.

In the pale moonlight these sixty wounded lay on the station platform, swathed in bandages. With a lump in my throat I gave a cigarette to each man who wanted one. It did not seem to matter how badly they were wounded, the cigarette was welcome. There were a few women in this little town who never failed to bring hot coffee and milk for the wounded, no matter what time of day or night they arrived.



The writer irrigating elbow wound of St. Paul

Each man was tagged with his descriptive tag which gave name, regiment, date he was wounded, the nature of his wounds and whether or not he had received antitetanic serum.

The blessés were then placed in the ambulances, four in each Ford and driven carefully to the hospital. Here their uniforms were taken off and later sterilized. Their valuables were placed in a small white bag with their name attached and taken in charge by the military secretary.

They were then washed with soap and hot water, clean pajamas put on and then put to bed. This was all accomplished in about two hours after their arrival.

No operations were performed that night. The work assigned to me the following morning was that of removing dressings of about forty



Staff of Dr. Blake's hospital and staff of Hôpital Française with Dr. Roche at Ries Oranges

wounded. Many of these wounds were terrible compound fractures. All wounds were infected and suppurating. Some of the feet and hands, arms and legs had the appearance of an internal explosion. After the removal of the dressings the surgeons and nurses followed.

Sketches were made of the wounds and their condition noted. If an immediate operation was indicated that also was made part of the history. If a case required X-ray or a fluroscopic examination, that too, was stated. Then fresh dressings were applied as soon as possible. Almost all fracture cases needed new splints with suspension and tension and some with continuous irrigation. To each surgeon was assigned an equal number of cases and his name placed on the charts.

In making "the rounds" with the médecin chef we came across a blessé, St. Paul, upon whose chart no surgeon's name appeared. He had been overlooked because he happened to be in a bed away off in a corner. He had a head wound and an elbow wound. The médecin chef asked me if I thought I could look after him and if so to put my name on his chart. My name went on the chart. Then I removed the starch bandages from his head and found two shrapnel wounds above and behind his ear. The pieces of shrapnel had been removed but the wounds continued to discharge. These wounds were dressed each day with gauze and the healing process stimulated with nitrate of silver. The elbow wound had two drains. This wound was irrigated with boric acid solution and dressed with wet boric acid dressings every day. After

two weeks the elbow wound showed no marked tendency to heal but the discharge had lessened in amount. There seemed to be a collection of fluid in the joint which the drains did not reach. Under ether I made an incision into the pocket of fluid and inserted a drain deep enough to allow the fluid to escape. In about three weeks the head wounds had healed and the fourth week the arm showed considerable improvement so that only small rubber tissue drains were required.

Maurice Delcourt, from the captured city of Lille, was wounded at Verdun. He had a badly fractured tibia with the loss of considerable bone substance. He had had a gas bacillus infection in his fractured leg which nearly cost him his life. A bone graft was inserted in his tibia to supply the lost bone substance. After he had recovered from this operation he asked me to reduce his lip. In boxing with the French champion's brother Carpentier, his upper lip had been smashed. This produced a lip on the left hand side about twice the size of a normal lip. Under novocaine I dissected out a V-shaped section of the vermilion border including the scar tissue. Three sutures brought the edges of the wound together. When the sutures were removed and the wound healed the lip had not been reduced enough. Another and deeper section of the lip was then dissected out and the wound sutured with two horse-hair sutures. These were removed in five days leaving a normal lip. It was painted with iodine for several days to reduce the slight swelling produced by the operation and sutures.

In addition to the routine oral and dental surgery I had the opportunity to assist in the major operations, sometimes giving the anesthetic.

I also assisted the surgeons in applying plaster of Paris splints. These consisted of plaster of Paris bandages applied over thin strips of wood. These kept the limbs in a firm and immobile position.

The mouth and teeth of my patients were kept in a clean and sanitary condition by the use of a solution made of vinegar one part, alcohol one part and water one eighth



Dr. Joseph Blake (to right), Dr. Roche (to left)

part. This was used on a tooth brush if they had one, if not they used gauze with which to mop and wipe their teeth and gums.

Some of the most interesting experiences I had while in France were the visits to several French and American hospitals.

One day we motored to the Dr. Joseph Blake hospital at Ries Oranges. I had a letter of introduction to him. With the other surgeons



Face wound of a patient in the Hôpital Française de New York

we had dinner at the hospital. Later we saw Doctor Blake remove a piece of shrapnel from the vicinity of a man's heart.

On another occasion we visited the Mechano-Therapy hospital at Fontainebleau. This hospital occupies part of one of the wings of the famous Château de Fontainebleau.

In the hospital are a great number of ingenious devices for the re-education of limbs whose functions have been impaired. There were also all kinds of baths and electro-therapeutic appliances for treating nerve cases and contracted limbs.

The Château is the famous and beautiful Fortes of Fontainebleau.

Before the battle of Marne the German Army penetrated France to within fourteen miles of Fontainebleau. At that time many of the most valuable treasures of the Château were removed to places of safety farther south. When we visited it all of them had not been returned.

On another occasion we visited some French Red Cross Hospitals at Melun. This gave us the opportunity to notice the difference between the American hospitals and the French hospitals. In these hospitals



Side of same face

the French Red Cross nurses had practically no training or experience prior to the war. In some of them there was no resident surgical staff. The surgeons had their headquarters in one of the other hospitals and visited these hospitals for dressings and operations. In some of the hospitals the Red Cross nurses were only on duty in the daytime.

We had the opportunity to see Doctor Roche perform a nerve suturing operation and were shown the cases upon which this operation had been performed.

In some cases there was a partial return of function of the nerves and in others the results were negative.

In the three or four hospitals of this town there were no Dental Surgeons.

On another occasion we visited the Val de Grasse Hospital in Paris. This is the great military hospital in which the military surgeons are trained. With its annexes it has about 5,000 beds.

Doctor Morestin operates in this hospital in addition to five other



Same face, plastic operation, first stage

hospitals in Paris. Doctor Morestin is the great plastic surgeon and his work is considered by Doctor Pool to be the standing surgical feat of the war. We had the opportunity of seeing hundreds of cases of face, nose, and jaw wounds in all stages of treatment and repair. We saw cases that had just arrived and cases that had been completed. We spent the entire morning with Doctor Morestin and returned in the afternoon to see him operate. One of the cases he operated on was for the removal of an aneurysm of the common carotid artery.

The results he obtains in his plastic operations of the face and the use of cartilage grafts are remarkable. In cases of fractured jaws the splints are made well and strong. So far as my observation goes the results that he has attained in the reconstruction of faces were unsurpassed.

On another occasion Morestin invited me to see him operate in the Old St. Louis Hospital, the oldest hospital in Paris. Here he uses two operating rooms, one for septic cases the other for aseptic cases. I saw him operate on fourteen cases in less than two hours. Then he motored me to my destination.

8 WEST FORTIETH ST.

TWO FOUR-ROOTED UPPER MOLARS

Through the courtesy of Dr. J. W. Bliss of Philadelphia, we have received two upper molars, each having four roots, from which the accompanying illustrations were made.

In view of the new light thrown on the treating and filling of abscessed teeth, and teeth from which the pulp has been removed, these teeth are interesting.



It is often difficult to find and enter *three* root-canals in an upper molar, but having accomplished the operation, most men would not even think to look for a fourth canal, and would be unable to account for any trouble which might result from the death of the pulp in the fourth root.

Fortunately these abnormal teeth do not occur often enough to constitute a real menace, but since they do exist, precaution should be taken in all cases presenting the least evidence of abnormality, especially in number, or position of cusps or form of crowns.

Nature plays queer pranks with us at times, and it would be interesting to know the conditions which influence such departures from the normal.

OBSERVATIONS OF ORAL SECRETIONS AND THEIR FUNCTIONS

BY WAITE A. COTTON, D.D.S., NEW YORK

SECOND PAPER

Inhibition of bacterial development and the prevention of the decomposition of food products in the mouth, are due to the secretions of a normally functioning mucous membrane, and not to the saliva.

In children the salivary glands do not actively function until the age of three to five months, as prior to this time their systems are unable to digest and absorb starchy foods, while the average normal eruption of teeth is at the ages of six to eight months—or about three months after the appearance of saliva. There seems to be no connection between the eruption of teeth and the beginning of the salivary flow, as some children who are born with teeth do not have decay prior to the advent of saliva, as far as I have been able to ascertain.

According to Kirk* the properties of saliva are (1) mechanical, (2) chemical. The first facilitates the movements of the tongue in speaking and the mastication of food, and dissolves sapid substances, rendering them capable of exciting the nerves of taste. The principal mechanical purpose is that of mixing the food during mastication and making a soft pulpy mass which may be easily swallowed. It is easy to see how much more readily it mixes with most kinds of food than does water; and the saliva from the parotid—being more aqueous—is that which is chiefly braided and mixed with the food in mastication, while the more viscid secretion of the submaxillary, sub-lingual and tonsillitic glands is spread over the surface of the softened mass to enable it to glide more easily through the fauces and oesophagus.

(2) (Chemical) saliva has the power of converting starch into glucose or grape sugar.

During fasting† the saliva, although secreted alkaline, shortly becomes neutral—and it does so especially when secreted slowly and allowed to mix with the acid mucous secretion of the mouth, by which its alkaline reaction is neutralized.

According to Foster‡ the chief purpose served by saliva in digestion is to moisten and soften the food and to assist in mastication and deglutition. In some animals this is its only function. In other animals and in man it

*Kirk's Physiology, 2nd Edition, Page 230.

†Kirk's Physiology, 2nd Edition, Page 229.

‡Foster's Physiology, 6th Edition, Page 247.

has a specific solvent action on some of the food stuffs. Its characteristic property is that of converting starch into some form of sugar.

The saliva and gastric juice* though so different from each other, are both drawn ultimately from one common source, the blood, and they are poured into the alimentary canal, not in a continuous flow, but intermittently as occasion may demand. The epithelial cells which supply them have their periods of rest and of activity, and the amount and the quality of the fluids which the cells secrete are determined by the needs of the economy as the food passes along the canal.

† While food is in the mouth saliva flows freely, but between meals only just sufficient is secreted to keep the mouth moist, and probably the greater part of this is supplied not by the larger salivary, but by the small buccal glands.

The secretion of saliva is a reflex action, under control of the nervous system, and responds to the action of the masticating muscles and the stimulation of the taste, olfactory, optic and auditory nerves; and generally speaking the quantity and quality secreted is in direct proportion to the dryness and hardness of the food.

The more slowly saliva is secreted the less alkaline it becomes. Under normal conditions during sleep, which occupies about one third of our lives, the flow of saliva is entirely practically suspended, otherwise we should either choke or drool, as swallowing being a voluntary action, cannot occur during sound sleep. Beside the salivary glands proper, numerous other glands are found in the mouth. They appear to secrete mucus only, which serves to keep the mouth moist during the intervals of the salivary secretion.

The labial glands, found immediately within the line of the labial occlusion, and variable in size, can be seen without the aid of a microscope, are of the compound tubular type and quite numerous. The buccal and molar glands of the cheek are of the same construction though somewhat larger than the labial glands and are proportionately less numerous. The glands of the soft palate are of the same construction, are numerous in the anterior portion, and in the posterior portion group themselves laterally into rows, but are absent in the centre. The mucous glands of the tongue are found along the lateral margins, with the ducts opening toward the teeth, but in rare instances they open obliquely toward the floor of the mouth.

The gums‡ are composed of a dense fibrous tissue closely connected to the periosteum of the alveolar processes and surrounding the necks of

*Foster's Physiology, Revised Edition, Page 260.

†Foster's, Page 286.

‡Gray, Page 931.

the teeth. They are covered by a smooth and very vascular membrane (which is remarkable for its limited sensibility). Around the necks of the teeth this membrane presents numerous fine papillae. The difference between these papillae and those of the skin and tongue is that a majority of the latter contain one or more terminal nerve fibres on which their delicate and accurate sense of touch depends.

All mucous membranes* secrete either from the surface or from certain special glands, or both, a more or less viscid grayish, or semi-transparent fluid of high specific gravity, named mucus. **It mixes imperfectly with water.** It is found to be made up, chemically, of a nitrogenous principal called mucine, which forms its chief bulk, of a little albumen, of salts, chiefly chlorides and phosphates, and water with traces of fats and extractives.

The secretions† of some of the glands seem to bear a certain relation or antagonism to each other, by which increased activity of one is usually followed by diminished activity of one or more of the others; and a deranged condition of one is apt to entail a disordered state in the others. Such relations appear to exist among the various mucous membranes; and the close relation between the secretion of the kidney and that of the skin is a subject of constant observation.

Physiologists have considered the mucous membrane of so little importance that its function is hardly mentioned though it must be important, for why should these glands be so placed that the major of their secretion is discharged almost directly on the teeth? These glands and membrane work continuously and are not stimulated intermittently as are the salivary glands, so the secretion is practically constant while the saliva is not only absent when the mouth needs protection, as during sleep, but the last secreted is nearly neutral.

Very little has been written of the mucous secretion. This is probably due to the fact that it is so difficult to obtain as distinct from the saliva, and because it has been considered as having no particular bearing on maintaining the mouth in an ideal condition. I have had many failures in trying to collect a sufficient amount for purposes of experimentation, even with the aid of specially designed apparatus; but I have been able to observe that the labial, molar and buccal glands give a slightly thinner and less viscid secretion than the palatal, lingual, and mucous glands of the tongue. It is comparatively easy to obtain the reaction of these glands by rinsing the mouth with distilled water, quickly blocking off the saliva from the part to be tested, then massaging and scraping the selected part with a swab of cotton saturated with

*Kirk's Physiology, Page 322.

†Kirk's Physiology, Page 327.

alcohol and applying the end of a small glass rod which has been previously dipped in a solution of methyl orange, rosolic acid, phenolphthalin or an equally good indicator. An acid reaction will be obtained in proportion to the extent that the membrane has been affected by chronic local irritation, bacterial toxines, or the perverted physiological function of the eliminating system, and the digestive tract.

When preparing mediums for the growth of bacteria care is always taken to have them slightly alkaline, or neutral, as very few micro-organisms will grow in an acid medium.

CONCLUSIONS

Saliva is secreted only for the mastication, deglutition, and digestion of food. It is normally present in the mouth, except during sleep, and is especially active while masticating. It also washes the mouth of food particles after eating, is alkaline in reaction, becoming less so as the secretion diminishes, at which time it is a good medium for the growth of bacteria and for the decomposition of food.

The secretion of the mucous membrane is the ideal logical protecting agent of the oral cavity. It is always present, is the mouth lubricant, does not easily mix with water or saliva, and by its acid reaction and composition inhibits the growth of bacteria and the decomposition of food. It keeps food particles from sticking to the tissues and the teeth, and also aids when eating as the food sliding over it is easily masticated and swallowed.

240 WEST 74TH ST.

(To be continued in October)

MECHANICAL OPENING OF ROOT CANALS *

BY ROBERT E. HASTINGS, D.D.S., UTICA, N. Y.

My paper is on the mechanical opening of root canals because that seems to be where I have diverged most from college instruction and the practice in many offices as I have observed it.

We were taught to enlarge difficult canals mainly by the application of diluted sulphuric acid, but I always found it easier to transfer small quantities of this to clothing or chair coverings than to a tooth. I know that many canals worked on in this way were not opened as they should have been.

One of my first patients required a root filling. Some months later

*Read before Utica Dental Society in monthly meeting at Hotel Martin, Utica, N. Y. Tuesday, March 6th, 1917.

he reappeared with an abscess and the tooth was extracted. I ground away the side of that root and found my work—under the sulphuric acid method—had not reached the apex.

This and other similar experiences led to my gradually coming to depend more and more on the mechanical opening and enlargement of roots. At first I tried hand operated broach-reamers but—finding these inadequate—changed to those used in engine.

It soon became plain to me, as the result of breakages, that the electric engine was too energetic for such use and I now believe that the foot engine of cable type is the ideal source of power in reaming. Its flexible shaft gives just the elastic drive required. I also find great advantage in using a contra-angle handpiece which holds the end of reamer about in line with axis of the driving shaft. If this hand piece is loose and worn, so much the better, as side play in the hand piece gives the shaft of reamer more freedom from strains and reduces breakage.

The Kerr broach reamers made by Detroit Dental Mfg. Co., are my favorites now, after trying some others. I like to run the smallest a little way through the apex just so the patient slightly feels contact in the soft tissues beyond root apex. Some long roots cannot be penetrated in this way with their regular length reamer so they have been making up on my special order an extra fine reamer $\frac{1}{8}$ in. longer than regular. This penetrates any root I have yet found although in roots entering the floor of antrum of course any sensation for the patient by apex penetration would be absent. I will pass a specimen set including the extra long; and also one of Ivory's Rhein model root canal explorers or "picks" which I find very useful in disclosing the opening into canals.

I never use the reamers in a straight hand piece as it is too heavy and clumsy. The contra-angle reaches all roots easily and facilitates the application of light pressure. Heavy pressure is sure to break the reamer.

If you examine any drilling operation in a machine shop you will generally find the cutter running in a lubricating bath. So to provide for this and sterilization at the same time, I dip reamer point each time it is inserted, into a 90 per cent. solution of carbolic acid in glycerine. This makes work much easier and I believe surgically clean. In sensitive canals instead of the 90 per cent. carbolic I use, on reamer, a saturated solution of cocaine crystals in a mixture of equal parts of grain alcohol and formalin. This works like magic in those very annoying tender root canals. Breakages of reamers when used in this way are very few. Sometimes when one breaks you can get by the fragment by careful use of another reamer. Many times the piece must stay there, and—if sterile—would in itself probably cause no trouble beyond blocking entrance to the remainder of canal where trouble might come later. It seems to me a

good deal better not to break them and a little care is good reamer insurance. Breakage seems most apt to occur when the reamer has suddenly acquired a good lead and is going forward rapidly. I find it safer to keep the left thumb on head of hand piece to retard any too rapid advance.

Side perforations I believe practically impossible. With the light hand piece a practised sense of touch feels the point of reamer take a new lead and the inclination of reamer shank shows a slightly changed direction. It may be necessary to enlarge the outer opening in crown to allow for this altered course. Moreover the length that reamer enters before sensation reaches patient shows to my satisfaction that they do not go through root walls. If this happened pain would be felt sooner. Recently in an extracted tooth, having right and acute angles at apices, I tried to ream through the sides of roots in an endeavor to make the reamer attempt these turns. While I could not get beyond the angles I was unable to force the point of reamer through the sides. It simply would not go there.

Of course reamers should be changed often during an operation of difficulty and replaced with new as dulled. I generally ream $\frac{1}{2}$ to $\frac{2}{3}$ at first and then seal in a dressing until the next appointment, when I complete canal to apex if possible.

For sealing I like Caulk's cavity-lining on cotton and over that Caulk's "pro-tem." Frequently patients stay away longer than expected and it is certainly an advantage to have secure, non-porous temporary fillings.

It seems reasonable that keeping roots surgically clean is more important than the choice of materials for filling them. Although I believe a root filling should combine as much as possible these qualities:

Easy working	Definite setting
No shrinkage	No apex irritation
Easy removal if necessary at any future time.	
Some embalming influence on minute remaining pulp fragments if such exist.	

I have come the nearest to these ideals so far in this formula for a cement in which to set the "Canfield" medicated gutta percha points:

Powder	Fine oxide	25 parts
	Pulv. Thymol	10 "
	Burnt alum	5 "
Liquid	Trikresol	5 "
	Formalin	1 "

I frequently force this alone into irregular canals under soft rubber with pressure until some sensation is felt at apex, and with no subsequent irritation. For pulp chambers, to my mind, nothing quite equals oxychloride of zinc cement.

With the idea of consistent surgical cleanliness I personally think the rubber dam should be applied every time roots are opened although in this I know that many disagree. It seems that teeth so broken down that a dam cannot be applied to them, by using temporary fillings or bands, are pretty good subjects for extraction. Although there doubtless may be an occasional exception, especially on the upper jaw.

The percentage of success under methods outlined I find very high. I doubt if 1 per cent. gives trouble, although some of you are likely to know more of my failures than I do, as dissatisfied patients seldom return.

36 Finsbury Square, E. C.,
London, Eng.

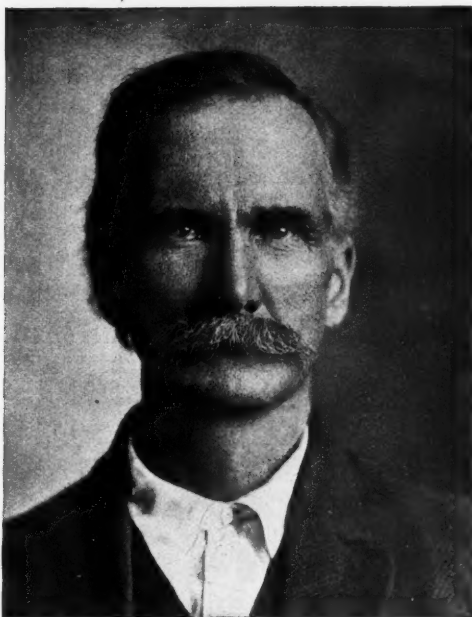
Editor DENTAL DIGEST:

I am an enthusiastic reader of your magazine and look forward every month to getting it, and reading the many valuable hints it gives.

There is one practice which I adhere to, but which I have never seen referred to in your magazine and I send it along in the hope that it may possibly be of some use. I am exceedingly busy, being one man doing the work of two owing to war conditions, and my appointments follow without any interval. However, busy as I am, before each patient is shown into the room, I wash my face in cold water, thoroughly rinse out my mouth with an antiseptic mouth wash and vigorously brush my hair with a stiff brush. This not only renders one's personal appearance spick and span for each patient, but the mere act in itself refreshes and clears the brain for new work. This exercise is worth the few seconds it takes. The hands of course are rewashed in presence of the patient.

Yours faithfully,
G. LESLIE CURNOCK.





HAS WORN OUT TWO SETS OF TEETH*

Editor DENTAL DIGEST:

I'm sending photo of man who has worn out two full sets of teeth and going pretty well on the third set.

Case History: H. G. age 60, all teeth taken out at 51. Full set Twentieth Century Combination Teeth placed and at end of 7th year all worn into rubber and pins. These now in Vanderbilt Dental Museum. Another set put in and in two years the same condition: you have this one. Another placed and now they are far on the road of the others.

Inquired as to habits and find him such a persistent chewer of †“Brown Mule” Tobacco that even in his sleep he keeps up the habit of working his jaws.

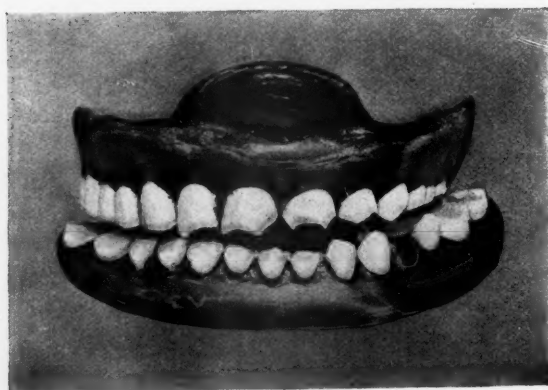
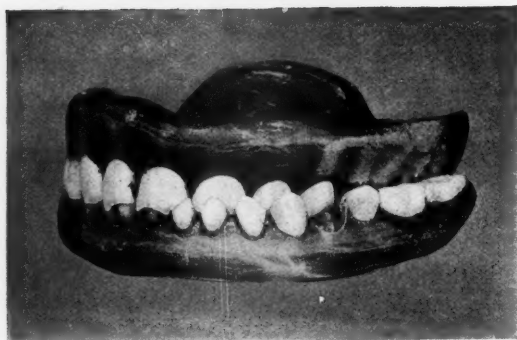
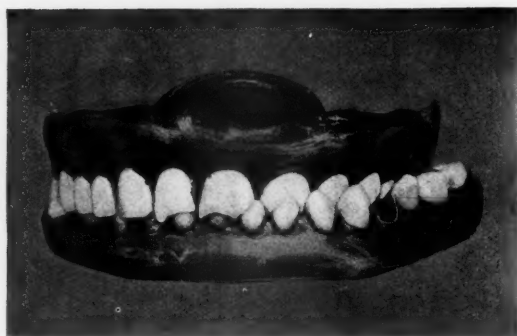
You have my permission to publish any part of this you deem proper hoping it might be interesting to some one.

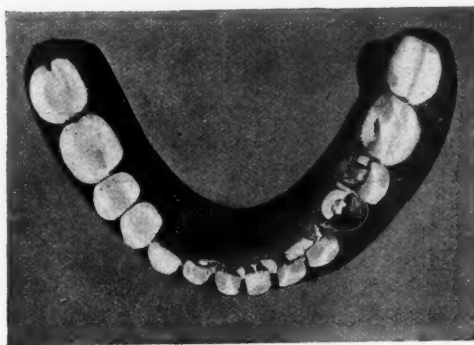
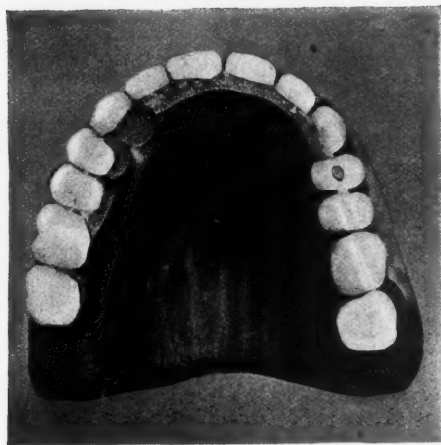
Very truly,

W. J. COTTINGHAM.

*See pages 566, 567.

†The fact that “brown mule” or “river leaf” tobacco is usually full of sand, accounts for the remarkable abrasion of these dentures.





PROTECTING THE VITALITY OF THE PULP. Gold is one of the best conductors of thermal changes that we use in our partial tooth restorations. For that reason alone we should hollow out all our inlays between the two axial line angles and carry the work gingivally as far as we can, leaving only a thin layer of wax over this seat. This technic will in no wise weaken the finished inlay and will materially aid in protecting the pulp with a heavy body of cement. It will also aid in the retention of our work. The removal of the desired amount of wax can be done with a sharp inverted cone bur after the sprue has been placed at the contact point.—*The Pacific Dental Gazette.*



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THE MAKING OF AN AMERICAN SOLDIER



THE FINISHED PRODUCT ("JOE")

ORTHODONTIA

SCIENCE VERSUS EMPIRICISM IN ORTHODONTIA*

FREDERICK LESTER STANTON, D.D.S., NEW YORK

SEVENTH PAPER

Every child should be in the hands of the dentist as soon as the temporary teeth are erupted. The highest type of dentistry is to watch over the temporary denture, prevent decay, if possible, by frequent polishings; if decay does take place it will be early recognized and suitable fillings may be made. **These fillings should restore the full contour of the tooth.**

Many of our children will reach the age of $5\frac{1}{2}$ years and will present a dental apparatus similar to the case shown in Figs. 36 and 37.

Models similar to these should be in every dental office in order to explain to the parents the impending malocclusion and the ease with which preventive orthodontia may be practised. Taking the upper model, in Fig. 37, the following points should be made. The temporary denture may be divided into three sections, a front containing the 4 incisors, two sides, containing two temporary molars and cuspids.

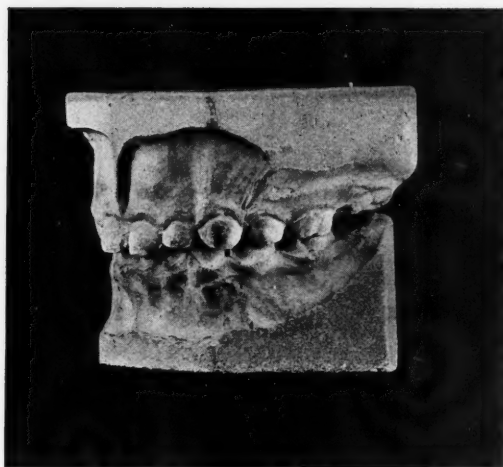
The front unit, of four temporary teeth, will be lost first and replaced by 4 permanent teeth much larger than the temporary teeth (7 mm. would be a fair average for this difference).

The two side units contain teeth as large as the permanent teeth that are to follow.

Unless there are spaces at this age, between the four front teeth, it will be impossible for the four permanent incisors to erupt into a normal arch.

If the six teeth of the side units could be moved to their correct width the incisors would erupt normally and the problem of malocclusion would be solved for the public and the general practitioner.

*These papers commenced in the February, 1917, DIGEST.

**Fig. 36**

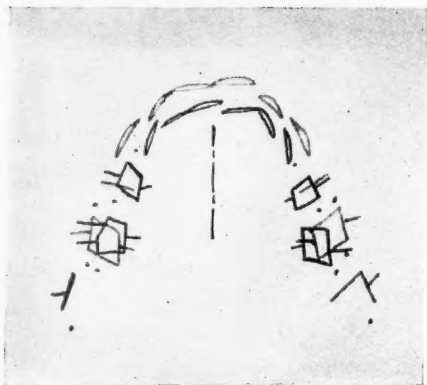
Model of child 5½ years.
First permanent molars and
lower centrals just erupting.
Note contact of incisors
(large spaces should be present).
Also note end to end
occlusion of the cuspids

**Fig. 37**

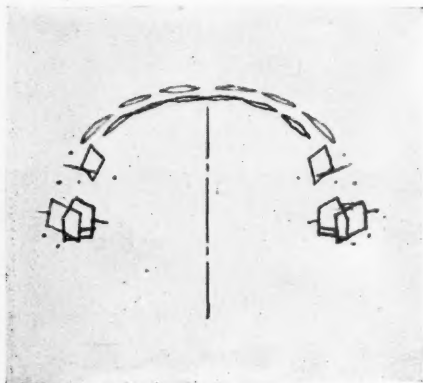
Occlusal view of model shown
in Fig. 36. Note how the 1st
permanent molars are erupting
into a wider arch, the mesial
ends turning in to meet the
distal arch which is too narrow

Fig. 38

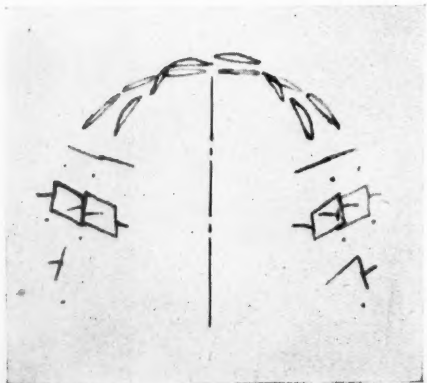
Is an orthographic projection made by an engineer with an engineering instrument. This map shows the malocclusion of model, Figs. 36 and 37. Upper teeth light. Lower teeth dark

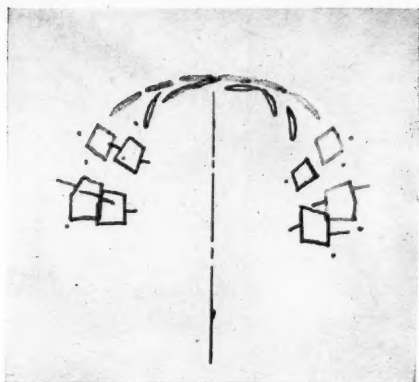
**Fig. 39**

Maps of occlusion made with an engineering instrument. (When all the teeth of the permanent denture are present this instrument will accurately predetermine the occlusion. Until all of the permanent teeth erupt some assumptions must be made in the use of this instrument on temporary and mixed dentures). In order to let the incisors erupt normally the malocclusion, Fig. 38, must be changed to positions shown in Fig. 39

**Fig. 40**

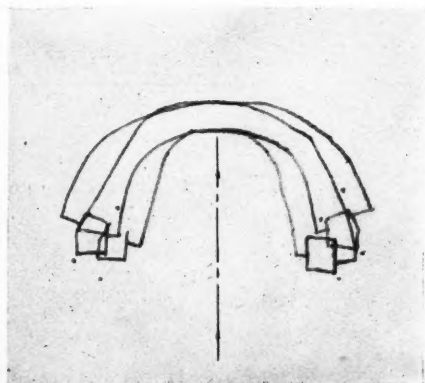
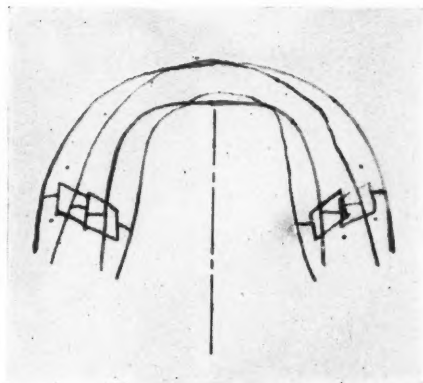
Proposed treatment of the upper jaw. Dark figures show position of upper teeth at start (see Fig. 37). Contrasted in light with their final positions as shown in Fig. 39 (Principal movements necessary—widening arch of 1st and 2nd temporary molars)



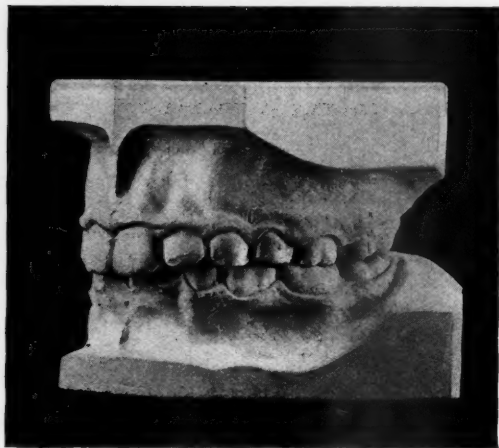
**Fig. 41**

Proposed treatment of the lower jaw. Similar to upper. **Movement of the side units necessary**

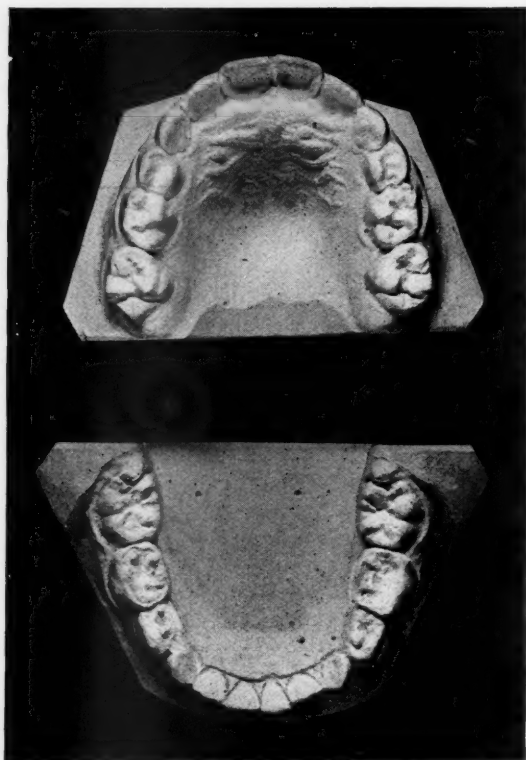
Fig. 42
Dark lines, survey of buccal and lingual gums lines before treatment of upper jaw. Light lines, proposed positions after treatment. **Note again, treatment consists of movement in lateral halves only**

**Fig. 43**

Lower jaw similar to Fig. 42

**Fig. 44**

Showing results of moving the side units to a predetermined position without touching the front teeth. Same case as Fig. 36 and 37 one year later

**Fig. 45**

Occlusal view of models shown in Fig. 44

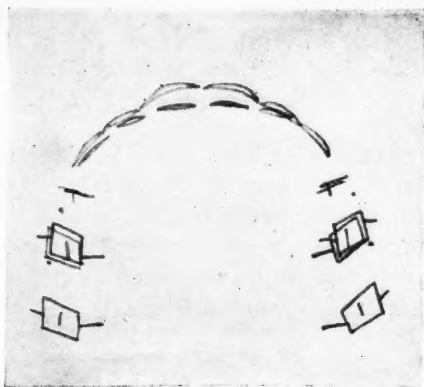
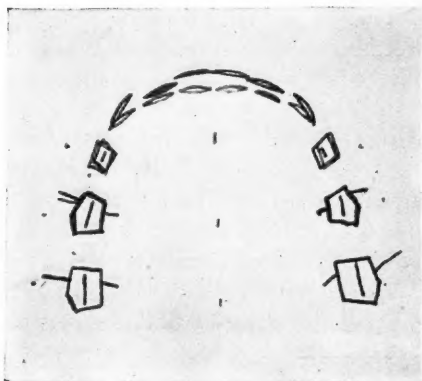


Fig. 46

Progress survey of upper model shown in Fig. 45 contrasted with the upper map of occlusion. So many of these lines are superimposed, it is difficult to read. (Note side units have been moved to their proposed positions)

Fig. 47
Progress survey of lower model shown in Fig. 45 and contrasted with map of occlusion



Malocclusion starts in the temporary denture, manifests itself to parent and dentist before the appearance of any of the permanent teeth, and may be successfully treated, with a few visits and simple appliances, by any good dentist. [It is expected that exceptions will be taken by specialists, and others to this statement. In order to make the issue clear cut the writer presents the result of treatment of the case shown in Fig. 36 and 37. With the use of dental engineering maps and appliances this result can be duplicated in any part of the world.]

The total time spent on this case in taking original impressions, fitting appliances, manipulating appliances (7 appointments), taking impression for study model, and fitting and cementing retaining appliance, was 9 hours.

28 WEST 39TH ST.

CORRESPONDENCE

Case-Mead Bldg., 76 Dorrance St.
Providence, R. I., July 24, 1917.

Editor DENTAL DIGEST:

Just received a p. c. from a brother of mine from Roumania. He is a M.D. and D.D.S. He just let's me know that he escaped being captured by the Germans near Calapat, a town near The Danube, on the Roumanian side captured by the Germans on their great drive into the country. He is in a town of the upper part of Old Roumania which is called Botosani, and he is there with another brother of mine, a D.D.S. The M.D. is the doctor of a hospital of the wounded and the D.D.S. is the dentist of all the hospitals in the vicinity, showing how scarce the dentists are over there. I think some young dentists with no dependents on them for support would do the greatest charitable work by reaching the unoccupied part of Roumania (by the Germans) to succor the poor wretched Roumanian soldiers whose lot must be terrible. This p. c. travelled $4\frac{1}{2}$ months and passed through Russia to meet me here.

He asked me to communicate to my mother that he and my other brother were safe. He could not write to them as the two parts of the country are separated by the German victors who would not allow any information to pass. He is about 250 miles away from my folks and I am thousands of miles away, and neither one can write to Bucharest where the rest of my family are located.

He and my other brother had to flee and leave almost the biggest and best practice, including all they possessed, in the hands of the Germans.

The doctor worked in Brooklyn with Doctor Schueierson as a dentist about 10 years ago, returning to Bucharest where in conjunction with another brother of mine he made a success as a dentist.

Hoping that some good might result out of this letter, and thanking you, I remain

Yours very truly,

I. BERGER.

Minneapolis, Minn., July 14, 1917.

Editor DENTAL DIGEST:

The Washburn-Crosby Co., largest flour milling concern in the world, have taken the initiative among Twin City corporations, and established a Dental Infirmary for the benefit of their employees. I have taken charge of the Infirmary.

Very respectfully,

THOS. P. RYAN.

OFFICE EXPERIENCES

AN INTERESTING CORRESPONDENCE

The following correspondence may prove entertaining, and perhaps, in some measure, instructive to the readers of the DIGEST. They are sent just as received.

S. G. M.

(1st letter)
April 8th, '15.

DOCTOR M.

I can't understand how you charged me the \$6.50 for about one and one half hours work on my teeth. You filled four small cavities and pulled what was left of one wisdom tooth.

Allowing \$1.00 for the material used (I think it cost less) and \$1.00 per hour for your time and labor (I get about 25 cents) it would make you \$2.50. This leaves you \$4.00 to the good which looks like an excessive profit on the time and labor expended, is this not so?

Yours, G—.

(In answer to this I sent him an article clipped from one of our dental magazines on the question of fees and comparisons with other vocations—net earnings per hour, etc.—and informed him my minimum was at the rate of \$4.00 per hour.)

(2nd letter)
April 14, '15.

DR. S. G. M.

I may have gained a wrong impression from the notes you sent but about all I saw to it was the "soft soap" idea, which I think is being carried out in full in charging the \$4.00 per hour excess and applying the "soft soap" if the patient "squeaks." You undoubtedly did good work on my teeth but the \$4.00 extra did not make it any better, and it is my opinion that that is one reason that the people keep away from a dentist (or doctor) and not because they do not wish to have their teeth

in good shape. You may apply your soft soap and praise your good work but I can't see that that is any reason for making the extra charge of the \$4.00 "per hour tax." Is it?

The old fillings cost me 75 cents each. However, I don't suppose any amount of "squeaking" from me will do any good if it is a rule of the "profession" to make this "per hour" tax, and I suppose it could not be altered, as the profession is for the benefit of the "professor." What?? I am glad you were not offended and hope this will not offend you but I think you will agree with me that this is a rather heavy over charge for us poor devils working for a "salary" of \$65.00 per month or less. What do you think???

(3rd letter)

March 12th, 1917.

DEAR SIR:

The filling in one of my teeth has come loose. What date can you fix it for me.

Make it in P. M. after the 2:10 train.

(Answer to Above)

MR. A. L. A.

DEAR SIR:

I recall that at the time of your last work—date April, 1915, you seemed to have the idea that you did not get value received for your work and were inclined to criticize me for my fees per hour.

In justice to you, therefore, before making a definite date, I wish to inform you that my rate per hour is now five dollars (\$5.00) instead of four dollars (\$4.00) and I have no vacant periods on my appointment book until next week.

If you wish to reserve time in view of this increase, I shall be glad to do your work, and if not, I can refer you to a cheaper dentist.

Very truly yours,
S. G. M.

(4th letter)

DOCTOR M.:

If you consider your charge of \$4.00 or \$5.00 per hour as compared with my 28 cents per hour an honest and just charge, of course I will have to pay it, but were the circumstances reversed, I dare say you would not think my criticisms groundless. *What date can you do my work,* and I would like card for same.

And so it all ended.

A. L. A.
S. G. M.

CLOSING UP THE "LIL GAP"

A colored sister, about middle age, presented for the restoration of a few teeth in front. It was one of those cases with considerable space between the centrals. I began to explain how nice her new teeth would look without all that space between them; when she said: "Now Doctor, I don't want you to shut up the 'lil gap,' for it will keep me from talking."

If the dentists could really and truly close up the "lil gap" in the mouth of man, the millennium would begin on the morning of the closing of the last gap.

W. R.

"SOMEWHAT" OF A LETTER

Editor DENTAL DIGEST:

The following letter was received by me. It makes one more of the "funny" letters the DIGEST has given us.

P.

DEAR DOCTOR:

Enclosed find a check for the dental work done on my teeth a short time ago. I intended to send it sooner but simply neglected it.

You have apparently done good work on my teeth but I know d - - - d well that you "worked" me on "their needing gold." You knew that you could collect the money all right by holding up my father's account.

Yours truly,

WAS THE COCAIN ACTING LIKE THE MORPHINE?

I was in a nest of tough extractions for full upper and lower plate, and was having a "hard pull." Patient, age fifty, began to complain of "itching feet," and ask that she might remove her shoes and rub her feet upon the foot rest. This done I continued to ply my faithful forceps, but the "foot itch" seemed to increase in its intensity so much until the extraction of teeth seemed about out of the question, owing to the greater excitement on the other extremity.

For strategic reasons I called a halt in the extracting, and asked the patient what did she generally use for the trouble. She replied: "I rub my feet in salt."

Desiring a recess and a little fresh air, I dashed out to the nearest grocery and bought five cents' worth of salt. Having poured some of

this on a newspaper where the patient might use it, I began to pull on the teeth and she to rub on the salt. The salt routed the itch and I got the teeth.

The patient said that on previous occasions her physician gave her morphine, which made her feet itch. I was using a one per cent. solution of cocain as an injection; maybe that was acting as the morphine.

W. R.

UNLIMITED "GAUL"

Editor DENTAL DIGEST:

Lady patient came to my office requesting estimate for 2 gold crowns and two amalgam fillings in addition to cleaning teeth which indeed needed it very badly. Estimate given proved satisfactory to her and I went ahead with the work completing same. Sent her bill for \$20 as per estimate. Two months passed and did not hear from her. At the end of six months after sending several statements, I called her on the phone as to her nonpayment of the bill. She said my price was unreasonable for the gold crowns, that her sister had same made by another dentist for \$5.00 and that she understood that the estimate included 3 gold crowns and 1 amalgam filling. I told her unless I had payment would give bill to my attorney. When she saw that I meant business she promised payment in 3 weeks. At the end of this time I received letter stating she was unable to make payment and would send same the 10th of following month. On 9th she called up and said she had been sick and while on a milk diet entirely, both crowns came off and she would under no consideration pay me anything. I sent her a receipted bill for the \$20 enclosing a note stating that hereafter she should inform the dentist that she wanted charity work and to accept same with my compliments for her nerve.

J. N. P.

P. S. Both crowns were on strong abutments and I knew it was impossible for them to come off.

WAS SHE GUILTY OR NOT GUILTY?

Patient middle age, respectable, married woman, on her last visit to my office handed me a bridge to be repaired same being inclosed in a small round flat aluminum box which had embossed on the outside the following:

. "3 Merry Widows, Agnes-Mabel-Beckie."

DIETETICS AND HEALTH

CARE OF CHILDREN'S TEETH BEGINS EARLY

[The following article taken from the *Boston Evening Record* was written by Dr. Chas. Askowith of Boston. This is a simple statement of fact easily understood by the layman of average intelligence and will undoubtedly accomplish a great deal of good.

There is a real need for more informative articles prepared by dentists who can write in simple style for laymen.

As soon as such articles are available, the misleading, sensational papers sometimes prepared by literary, but uninformed physicians, will cease to have a market with publishers.—L. W. D.]

MINERAL SALTS AND RIGHT KIND OF FOOD FOR MOTHERS NECESSARY

Very few mothers appreciate the importance of preserving the baby's teeth. If the teeth of the children were properly cared for, the future health and efficiency of the nation would be assured, and in cash value would amount to thousands of millions of dollars.

When should the care of a child's teeth begin? Dr. Charles Askowith writes for the *Record* in answer to this question:

"Literally before it is born. The prospective mother should bear in mind that a liberal supply of mineral salts is essential to the growth of the bones and the teeth to the child, and accordingly her diet should include plenty of whole wheat and rye bread, cereals, and raw vegetables. When a child is born the enamel of most of the temporary teeth is already formed. If the embryo is deprived of bone-forming nourishment the enamel caps of the child's teeth will be imperfect, thus leaving them more exposed to decay.

"What are the first steps to take in the care of a child's teeth? Systematic care and attention should begin soon after the first teeth appear. Cleanse them daily with tepid water, to which has been added a little bicarbonate of soda or lime water. Application can be made with a piece of cheese cloth or absorbent cotton. As soon as all the first teeth have appeared, 20 in number, a child's soft tooth brush and finely precipitated chalk should be employed, care being taken to move the brush with a rotary motion up and down, rather than across the teeth.

FIRST MOLARS

"At about the sixth year, the first permanent molars, four in number, appear just back of the baby teeth. They are often taken for temporary teeth and are neglected, with serious results. They are the most important teeth of the whole set, as they form the keystone to the dental arch. All the other permanent teeth erupt in front and in back of these four molars.

"Why bother preserving the temporary teeth when they will later be replaced by a second or permanent set, is a question sometimes asked.

"For a number of reasons, each extremely important in itself:

"1. To preserve the health of the child by enabling it to thoroughly chew its food, as otherwise it is pretty certain to suffer from indigestion. A child's stomach being much more delicate than an adult's is more easily upset by unchewed foods. Missing or decayed teeth induce bolting of the food and thus establish a pernicious habit likely to have a serious effect on the child's future life.

"2. Decaying teeth cause a foul mouth, and decidedly increases the chances of catching contagious and infectious diseases as tonsillitis, diphtheria, mumps, scarlet fever, and tuberculosis.

"3. To prevent deformity of the jaws which premature loss of teeth encourages. The jaws remain too small and narrow for the accommodation of the permanent teeth, thus leading to irregularity of the teeth, mouth breathing, and adenoids. This abnormality can also be caused by thumb sucking and the use of teething rings.

"4. For the sake of appearance. Not only is a perfect set of teeth in a child beautiful in itself, but it gives beauty and symmetry to the entire face.

"5. For perfect speech. The teeth play a very important part in proper articulation; some sounds cannot be made if some of the teeth are lacking and the enunciation is indistinct.

"6. To promote the mental efficiency of the child. Scientific tests have proved that good care of the teeth of a group of school children in a Cleveland school had improved its working efficiency 98 per cent.

"Prevent decay in children's teeth by training the child to avoid mushy foods, pastries, and poor candies that injure the teeth, and leave remnants that promote germ growth; by leading him to prefer dry and coarse foods that scour and clean the teeth when well chewed; by training him to chew very thoroughly all foods, and by enforcing the habit of cleaning the teeth at least twice daily.

"It is advisable to take a young child to the dentist before any toothache occurs, especially if you would like to spare the child the toothache.

The toothache need never happen if an occasional visit is made to the dentist, so as to give him a chance to nip in the bud any trouble that may be developing. If small cavities are filled when they first appear they will cause little or no pain. The temporary teeth can thus be saved until the permanent teeth are ready to take their places."—*Boston Evening Record*.

QUESTIONS ABOUT FOOD

ANSWERED BY ALFRED W. MCCANN

Question. I am told that I ought to drink no water unless it has been distilled, for the reason that ordinary tap water contains mineral salts that hasten the approach of old age. I cannot afford distilled water, and have been greatly worried about the tap water, in consequence of which I believe I am not now drinking sufficient water to keep me in good shape. In fact I know that since cutting down the liquid part of my diet I do not feel nearly so well as I did before. What shall I drink as a substitute for the distilled water that I cannot afford?—G. A. O.

ANSWER. Go back to the tap water as quickly as you can. Drink a lot of it. If you were desirous of committing suicide by the slow route the best possible way to hurry the approach of old age, with which your distilled water friends have worried you, is to do just what you are doing.

Seventy-five per cent. of the human body consists of water. Even the teeth contain two per cent., water. The blood contains ninety-nine per cent. You ought to drink at least two quarts daily. The oftener you approach the tap the better.

There is no physiological activity of the human body or of any other animal body which does not depend upon water.

L. J. Henderson is authority for the statement that the human body is essentially a watery solution in which are spread out colloidal substances of vast complexity.

Natural water, which is the only water to be found on the surface of the earth, is not distilled water. All natural water contains salts taken up by contact with rocks, sand and soil. Distillation separates these salts from natural water and makes such water unnatural.

Doubtless, if distilled water were necessary to the postponement of old age, Almighty God would have provided distilled water for the people of the earth. Let us repeat: He has provided no such water.

Aboard ship men are forced to rely on distilled water. On long voyages they can get no other kind.

Yet W. B. Davis, in the annual report of the War Department for 1910, says concerning the experience of the navy with distilled water, "I am convinced that the constant use of distilled water is not conducive to health."

Dr. Frank Leslie Rector, in an exhaustive critical review of the subject, says: "The medical profession as a whole are pretty well agreed that the constant use of distilled water is not best for our general health. It has its place in the treatment of disease and that place is usually filled in the compounding of prescriptions."

It is a fact that distilled water, as found in the average drug store, is frequently contaminated with millions of organisms. Of sixteen samples examined by Muller only two contained a germ count of less than 100,000 per c. c.; one contained more than 6,000,000.

In referring to the health of the American Navy, Doctor Rector reminds us that the great majority of the men of the Navy are young, vigorous and strong, being selected only after passing a rigid physical examination.

"They are the pick of the country from a physical standpoint," he says. "Less than one fifth of the applicants for service in 1915 were accepted."

The chief of the bureau of navigation in his annual report for 1915 to the secretary of the Navy says, "Only one sixth of the applicants for service are accepted as the Navy will have only the best of the young men of the country."

Their term of enlistment is only for three years. During this time the sailor gets plenty of exercise, his habits are regular, his mode of life normal and he is protected, as Doctor Rector points out, from typhoid fever and other diseases by immunization.

Doctor Rector's conclusions are:

"The short period of enlistment of the average sailor combined with his regular habits gives insufficient time for the development of permanently unfavorable conditions following the use of distilled water."

The hardest kind of water contains less lime salts than milk. Without these lime salts and the other salts with which they are combined human life could not exist.

W. P. Mason declares that the waters of the south of England are excessively hard. The statistics do not show an increase in the death-rate resulting therefrom.

H. B. Woodward declares that a moderate degree of hardness is generally to be commended in drinking water.

R. Berg, cited by Rector, goes even farther. He says, "The harder the drinking water of a district, the better the physical development of the children."

Commenting on these and many other conclusions Rector asks this question: "If natural water containing salts in comparatively large quantities is so harmful as some would have us believe, why are physicians continually sending patients to American and foreign spas for treatment?"

"The waters at these health resorts contain from hundreds to thousands of parts per million of mineral salts. Our own Saratoga waters and such foreign waters as Ems, Fachingen, Langenschwalbach, Vichy, Folkstone and others are classed as valuable medicinal agents."

The commissioners of the State Conservation at Saratoga for 1913 declared that rheumatism, hardening of the arteries and renal diseases have been greatly benefited by a course of treatment with water rich in mineral salts.

Bath, Hot Springs, Santa Rosalia, the mineral springs of Arkansas, Virginia and New York afford good examples of the folly of the superstition that hard waters hasten the approach of old age.

The waters of Bedford, Saratoga, Carlsbad, etc., put such superstitions to flight.

Be not afraid. Go to the tap and stick to it.—*Globe and Commercial Advertiser*, Jan. 16, 1917.

CUTS OF MEAT AND CALORIFIC VALUE

The kind or cut of meat used does not usually make much difference in the fuel or calorific value. There is a popular belief that porterhouse steak and other choice cuts of beef represent the highest form of nourishment to be obtained. This is, however, a misconception; the fuel value of brisket or ribs of beef as well as mutton and lamb all exceed the much desired tenderloin steak. According to Langworthy, expert in charge of nutrition investigations of the U. S. Department of Agriculture, "for all practical, every day purposes it may be considered that the protein obtained from a given weight of meat differs very little either with the kind of meat or the cut."—*Weekly Bull. Dept. of Health, Newark, N. J.*—*Journal Amer. Medical Association*.



DENTAL ECONOMICS

THE DENTIST'S DUTY TOWARD HIS PATIENTS *

BY W. I. MACFARLANE, D.D.S., TOMAHAWK, WISC.

The ideas which I wish to present to you were prompted by a conviction which has been growing in my mind for some time.

The more I study conditions as they are at present and the more I observe the various stages of disease as presented in the mouths of those who come to us for professional service, the more firmly I am convinced that we need to be more conscientious in the service which we render the public. I do not mean to say that the service which we now render is not honest, but I feel that in a good many instances we fail to recognize the importance of early instruction which, if given to the patient, would in a great many instances, prevent serious results later.

For example, I believe it is the duty of all dentists to preach and practise prevention, to and for each patient that comes to him for professional service. How many of us, especially those who are conducting a full practice, realize the evil effects which are brought about as a result of pulpless teeth? How many of us fully realize the responsibility which rests upon us when we fail to impress upon our patients the very great importance of giving early attention to diseased teeth and gums, so that the pulps of teeth may be saved and conditions of the gums which result in pus pockets may be prevented?

In order to impress this thought, permit me to ask each of you a question. Given a certain tooth in your own mouth or the mouth of your wife or your child, which condition would you rather have? A vital, comfortable pulp in a tooth which had been affected by decay and given early attention, or a devitalized tooth with all the danger of a faulty root filling, focal infection, and the ills to the body which may come about as a result of the loss of this pulp?

If any of you have been called upon to decide between the life and death of a pulp in one of your own teeth, you will perhaps remember how much concern it gave you. How many of us, when a patient presents with what

*Read before the Central Wisconsin Dental Society, 1917.

they term a job of cleaning, take advantage of the opportunity to point out an inflamed condition at the gingival margin or bring to the attention of our patient the injured condition or perhaps the entire destruction of the gum tissue in the interproximal space which has taken place as a result of the destruction of the normal contact point of that tooth, owing to decay or a filling which has a faulty contour? How many of us make a list of the little patients as they are brought to us by their parents and also of our adult patients, and then at stated intervals send notices to these people that it is time that their mouths were examined?

It is surprising how many people will respond to the interest which is shown them by the dentist who carries out a system of this kind and who makes use of the opportunity to explain how very important frequent examinations are in order that pulps may be conserved.

Perhaps some one will say that they are in the habit of sending such notices and that patients do not always come. To such, I reply that you have at least discharged your part of the obligation and that after doing this the responsibility rests with the patient. I can honestly say that it is very rare for my patients to fail to respond to the notice which we send.

Another duty which I think we all owe our patients is that of timing our operation. It certainly is not fair to make patient number one pay for the loss of time which we incur through failure to properly estimate the fee of patient number two or three. In order to be just to ourselves and our patients, we should time our operations. You will be surprised if you follow out this plan to find how much time you spend on the following operations: Treating and filling root canals, scaling teeth and treating gums, inserting amalgam fillings and cavity linings and extracting. Last summer I hired a school girl to come into the office and do nothing but time the various operations, thus relieving my assistant from that responsibility, for I found that at times when we were very busy and pressed for time that we would occasionally forget to make the proper notation as to the time of patient taking and leaving the chair.

I impressed this girl with the fact that she was to pay no attention to the other work but simply keep an exact time record for me. We now have a better method which cost us only a trifle and this is as follows: We have a time stamp made by the Ellis Time Stamp Co. of Chicago which can be purchased for \$6.00. When the patient gets into the chair we stamp the time on a slip which we have for this purpose and when the patient leaves we stamp again. The clock to which the stamp is attached has been running in the meantime and in this way we have an accurate record of the time spent in service for this patient.

In order to be just to yourself and patient, you must determine your overhead expense per hour and then add to this the amount that you feel

would be just right which you should receive from the patient for the service which you render them. To illustrate: Suppose your overhead is \$1.00 or \$1.50 per hour, and that you spend one hour in rendering your patient a service which they term cleaning, and which you should call prophylaxis when you render them this statement, and then you charge them a fee of say \$1.00. It doesn't require very much instruction in mathematics to determine how much this operation contributed toward paying your salary. Does it?

I contend, that in order to fully carry out your duty toward your patient, it is necessary for you to receive a fee large enough to permit you to feel that you are free to devote whatever time may be required to properly perform the given operation in all of its details, instead of feeling that it is necessary to skimp your technic in order to reap a financial gain.

I am not in dentistry for the sake of the exercise that I receive as a result of the practice which I carry on, but I think that it might be well for us to stop and consider very seriously some of the ideas which are presented to us by men who seem to ignore the rights which our patients are entitled to and should receive at our hands, and who would have us believe that the great fundamental principle in dentistry is to get the money. I have seen some of this rapid fire dentistry in which the dummies of bridges have been placed over roots that occupy the space between the abutments. I have also seen root canals which were filled with cotton, crowns without contour, injured inter-proximal spaces resulting from fillings with flat contacts, chronic abscesses upon the roots of abutment teeth, pus pockets resulting from pyorrhea and other conditions that I will not take the time to mention, all of which should be brought to the attention of the patient and corrected by the dentist if he does his duty toward that patient. I want to go on record as an advocate of the following:

The two great fundamental principles of a successful dental practice are honest service to your patients, and just compensation to yourself. The foundation upon which these principles rest is based upon a sound business conception of the cost to the dentist of the production of this service and the time required to render the same.

THE SADDEST SOUND

"There's no telling what crazy notions poets will get."

"True enough."

"Here's one who chirps about the 'music of the dentist's-drill.'"—

The Journal of American Medical Association, August 11, 1917.

ETHICS*

By J. H. KOLTER, D.D.S. WAUSAU, WIS.

Of late we have been reading some timely and most excellent papers upon the business side of dentistry, and though the discussion of professionalism has had its day a new thought seems to pervade the articles upon this subject current just now which might profitably be subjected to brief analysis.

I well remember my first introduction to ethics in a series of lectures at the Dental College. "Thou shalt not do thus and thou shalt not do so, and if thou do not thus and so then art thou ethical, but if thou do thus and so then art thou unethical, and thou that art unethical are unclean and canst not associate with the ethical." That seemed to be the summary. Advertisements and hand bills are unethical, engraved cards sent out by mail are ethical. A V-shaped sign over the sidewalk is unethical, a gold foil name in the window is ethical. As if the ethics might have dimensions and were material! Yet that was the conception most students had upon leaving college. We who were ethical were good fellows and those who were unethical were scabs. A sort of better-than-thou differentiation. Haven't you ever had that feeling in your inner soul? Do you recall the prayers of the Pharisee and the Publican? Isn't it the ethical Pharisaic practitioner who thanks God he isn't such a scab as the advertiser?

What do we understand by ethics? I should say it is the science of human conduct, or of right character. And that is pretty broad. A couple of thousands of years ago one Mr. Moses formulated a Code of Ethics containing ten Articles or Sections. Said he: "Thou shalt not do this and thou shalt not do that." Any infraction thereof had its penalty. There was the odor of sulphur and brimstone in the meeting place of the unethical.

Being finite we human beings occupy an ever changing viewpoint. Compare this age with any of the earlier. What a change in art, science, music, literature, music, habits of life, morals—religion? yes, even that, for the only thing unchangeable is truth, which belongs to the infinite. Time was when some regarded it as unethical to insert an amalgam filling, just as in this day certain procedures are thus regarded. The banks used to consider advertising as the very basest breach of ethics, while to-day it is a part of their campaign of education. And even some of the churches feel constrained to set before their people through the same medium some of their "attractive programs." God pity us if that has become necessary.

*Read before the Local Wausau Dental Society, 1917.

About a half century ago someone drew up a Code of Ethics for the dental profession. Those that subscribed thereto were eligible to join the Societies and classed themselves apart from those who refused. Now, in its inception that was very good. All honor to those patriarchs who upheld professionalism and high ethical standards. But the viewpoint is changing, and we are growing bold to assert that we dare to think of receiving a just remuneration; while some believe and assert that some of the restrictions, notably that regarding advertising, should be relegated with the obsolete, and the whole Code revised and rejuvenated.

If this is the science of right conduct then there are certain obligations imposed upon us, which it seems to me are threefold; primarily and obviously obligations toward our clients, secondly obligations toward our fellow practitioners, and thirdly obligations toward ourselves and those dependent upon us; and unfortunately these last have been too long ignored.

I shall not within the scope of this paper attempt to go into detail nor even suggest any possible change in the codes that have been quite universally accepted. But we cannot blind ourselves to the sad fact that certain deplorable conditions prevail. Under the cloak of professional ethics deeds are being perpetrated that are black as night. The laity as a rule are not well versed in the details of our work, and how often is advantage taken of that fact? I overheard a remark, "You don't catch me standing on my head ten minutes looking for a root canal." Yes, it will all be covered up, and the patient will be none the wiser, perhaps. Yet can you condone the moral degeneracy of the unscrupulous operator who will not even put forth an earnest effort in behalf of his client, even though he may be unable to X-ray all his root canal work, as is now being advocated? Can you ask for a more flagrant violation of ethics? It is only one example. Give your thought freedom of wing and you can supplement it with a dozen more. It should be our aim to conserve the health and welfare of our patients whose confidence we have presumably inspired, but that cannot be done by a headlong rush into every fad and fancy that the new day may bring forth. Now it is the gold crown and bridgework, now the porcelain inlay, now cataphoresis, now anesthesia and analgesia, now emetine for pyorrhea, now oral prophylaxis to the n-th degree, now conductive anesthesia, now X-ray and ionization, and so on down ad infinitum ad nauseam. Verily the end thereof is not yet.

I would not speak disparagingly of one's efforts to keep in touch with scientific advancement, to honestly and earnestly endeavor to render the very highest and best service, but to jump at conclusions and adopt every inane suggestion because of the possibility of its being a "practice builder," thereby merely exploiting the people, that I declare to be the veriest

quackery and the basest breach of ethics though it may not be at variance with any particular section of the Code.

To disagree a little, what think you of the ethical standards of some of our dental colleges? There is a certain school that issues a wonderfully interesting brochure upon the subject of Oral Prophylaxis, the perusal of which reveals some startling facts. Whatever may be the cause of caries or pyorrhea, "this treatment will render the mouths immune." And again, "One treatment—is all that any tooth will ever need." And by way of emphasis, "There can be only one good result, and that is the absolute, permanent elimination of the trouble, and at one treatment." Comment is unnecessary. And then what think you of the idea of the Colleges in their zeal to get students, presenting as an argument that this is the last year one can enter a three year course? It is well enough to mention that fact, but don't you know that some of the colleges have been writing their influential Alumni to send them students on the strength of that? How woefully ignorant we are! The more we learn the more do we recognize how little we know about the many problems that daily confront us, and yet in the face of this fact, young men are urged to "go it while the going is good." Until recently a Western College has been advertising in a farm journal calling attention to the "easy work" and "big money." Yes, verily.

(To be Continued in October)

FOLLOW-UP FORMS

We are indebted to Dr. L. C. S., Staten Island, for the follow-up forms here given. These forms, on government postals, have given this dentist some "splendid results."

Phone.....

Office of.....

Dr.....

Address.....

MY DEAR.....

A short time ago I did some extraction work for you. Apparently you were well pleased with the service. Why not replace this lost molar with a real good one? Do so to aid your stomach in its process of digestion. See me about this; my time is yours, gratis.

Respectfully yours,

DR.....

"Quality First"

Phone.....

Office of.....

Dr.....

Address.....

MY DEAR.....

As yet you have not responded to the estimate given you a short time ago.

Is it because you are not ready to start your work, or is it fear that keeps you from the dentist's door? I can right both if you will call to see me.

Respectfully yours,

DR.....

"Quality First"

Phone.....

Office of.....

Dr.....

Address.....

DEAR PATIENT:

The principle of this office has always been to complete work as quickly as it can properly be done. By having neglected your attendance here lately you have unnecessarily prolonged your service. Please be kind enough to communicate at your earliest convenience by person, mail or phone.

Respectfully yours,

DR.....

"Quality First"

THE ELIMINATION OF PAIN FOR A DOUBLE MOTIVE

BY ANDREW C. DRURY, D.D.S., SOMERSET, PA.

It is the aim of every ambitious young dentist to do something by which he may build a practice, using his precious first patient as a cornerstone to community respect, local admiration, conscientious endeavor, and financial recompense. From the cornerstone he builds in all these directions.

It takes time to demonstrate your ability as a fitting competitor in lasting, successful crown and bridge-work, gold porcelain treatment of abscesses and other oral affections. The average and especially the more enlightened, are a little dubious in trusting work of this nature to a be-

ginner, so that we cannot be too careful to do everything from the start as well as possible and to do it in such a manner that it will attract notice, create favorable thought and promote valuable discussion as to ability and talents. With this object in view I honestly believe the most effective way in which a man can procure, increase and maintain a practice is to as quickly as possible eliminate every possible speck of pain to the patient while in the dental chair; especially in this hour of such important questions as root filling, crown and bridgework, extention for prevention, cavity preparation, abscesses with their local and systemic sequelae, etc.—all with their mootable solutions—must produce fearful apprehensions in the minds of patients. And while I am sure we cannot nor do we expect universal peace within our generation, neither can we hope for too much in the line of perfect teeth. But if we strive to prepare our progeny, and avert the necessity for substituting Nature's gifts for artificial teeth and can offer the chair as a haven of prevention as well as a cure for pain, we will then have taken that step predicted by Doctor Mayo and dreamed of by every man who wishes to see his degree commanding the respect of every living person.

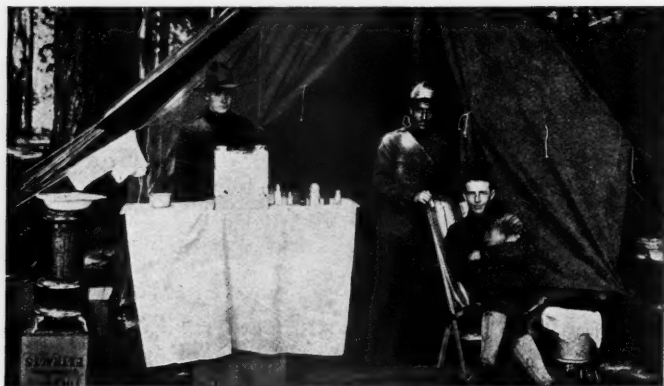
All theories are proven by practise or in other words worked out, and to best illustrate just what I mean, I shall, if I may, give a concrete example of a dentist, my preceptor, who has long felt this as his goal. With intelligent thought, he perfected his technique, acquired adequate equipment and applied conscientious endeavor to his local anesthetic as advised by our biggest men; stopped the sealed arsenic, curbed bit, and mental persuasion terror-striking methods. So it wasn't long after starting in a small town until in desperation Bill Jones was going to try the new doctor, because he knew he couldn't hurt him any more than the rest and perhaps "there may be something in this much talked of painless work after all," so with a "jumping" toothache he came in for an examination, which proved to be a large cavity with nearly an exposure. The new Doctor explained that he would anesthetize or "put to sleep" the tooth and prepare the cavity and if necessary remove the nerve, fill the roots and restore tooth to normal relations. He asked what "Brother Bill" would think was just and got it. The patient could scarcely believe it true that a nerve could be removed, roots filled and a permanent filling installed in one sitting. It was a valuable corner stone well filled.

Sensitive gingival cavities and others where there was dread of the needle and gas analgesia, were treated with desensitizing paste cemented to place for twenty-four hours, all cavities opened with carborundum stones, to lessen jarring and noise, asbestos fibre with carbol eugenol were placed under fillings where any thermal change was likely to take place.

Abscessed teeth were always treated under gas or somnoform, light touch, new burs, true stones, pressure anesthesia where indicated, asepsis was practised to the letter, proper forceps, saliva ejector. Fan in warm weather, violet ray used to quickly determine life of a tooth. Strict adherence to appointment time avoided much nervous anticipation; quiet, assuring, considerate manners are a big attribute.

In a few years he left the small town and was followed. He does have local respect, he is admired, his is a calling and he is paid well. There are hundreds of the same calibre but there should be thousands. More should need extraction, fill less roots and put on less crowns and bridges, insert less plates; more should be loved by the children instead of fearfully avoided, more should feel this call of prevention of the necessity of questionable substitutes and more should live in bigger houses, better paid for title and be honored ones of those who are lessening the many causes of these confounding problems of cures which might not have been necessary.

So with men like these to guide me and this object as my goal, I shall try to the best of my ability, and go on and on.



The First Company Field Dental office for U. S. Reserve (equipment not yet arrived). Lieut. E. D. Davies, D. C. (Rg.), American Lake, Wash.

What do you suppose the dental officer overseas, who has sacrificed home, family, and practice for his country, thinks when he receives a letter from a bachelor confrère at home in comfort with the motto printed at the top of the page, "We'll Never Let the Old Flag Fall!"—*The Dominion Dental Journal*.

PRACTICAL HINTS

[This department is in charge of Dr. V. C. Smedley, 604 California Bldg., Denver, Colo. To avoid unnecessary delay, Hints, Questions, and Answers should be sent direct to him.]

CEMENT FOR MENDING PLASTER CASTS.—The following makes a reliable cement for mending broken plaster casts: Dissolve celluloid in acetone to a syrupy consistence. Smear the fractured surfaces and press together for a minute or two. It dries quickly and holds securely.—*The Dental Cosmos*.

TREATMENT OF PERFORATED ROOTS.—Where the root of a valuable front tooth has been the victim of crudely careless work and has been perforated in an attempt to open the root-canal, it can sometimes be saved by surgical interference through the gum and bone, and the insertion of an amalgam filling in the perforation.

The technic is practically the same as for apicoectomy. First locate approximately the perforation on the outside of the gum, then fill the canal as perfectly as possible before operating. A crescent incision is then made with its ends upward, forming a flap that when pushed upward will expose the opening in the root. Trim away the bone, and then insert an amalgam filling. Turn the flap back over the exposed part after thorough cleansing of the wound, and take as many stitches as are necessary. I have treated in this way a number of abscesses of several years' standing, and have saved teeth that in each case were well worth saving.—P. D. BROOKER, Columbia, S. C.—*The Dental Cosmos*.

ACCURATE CROWN BAND MEASUREMENTS.—These measurements must be as accurate as our technic will permit. For this reason any wire that has a diameter to speak of will increase the length of the band by twice the diameter of the wire used. As an aid to accuracy I have found the use of a strand taken from fine picture wire best suited for the purpose.

*In order to make this department as live, entertaining and helpful as possible, questions and answers, as well as hints of practical nature, are solicited.

It is tough, does not stretch and can be obtained in any locality. When the picture wire or rope has been cut to length, such as we usually need, the many strands can be easily separated.—*The Pacific Dental Gazette*.

TO SOLDER THE DOWEL PIN TO THE FLOOR OF A CROWN COPING.—In a band or partial band cope for a crown, time may be gained if instead of investing the cope, a bit of asbestos fiber is made wet and carefully shaped with the fingers to the pin and floor on the surfaces to be in contact with the root. Then heat, and as the water evaporates, the asbestos becomes quite dense, and holds the relation correctly when the pin and floor are united, the whole operation requiring but one or two minutes.—J. F. F. WALTZ, *Dental Review (Dental Cosmos)*.

WAXING A MESIO-OCCLUSO-DISTAL INLAY.—My technic in waxing a mesio-occluso-distal inlay is as follows: The first step is to force the softened wax into the cavity so that it fills in the whole interproximal space. Trim off roughly most all the excess, with the exception of that filling in the interproximal space. Soften the wax with hot air on the occlusal and tell the patient to close the teeth. Re-trim the excess from the occlusal surface. Trim the wax lightly from the mesio- and disto-occlusal to the contact points, so that a very thin matrix can be placed between the excess wax and the adjoining tooth. Place one finger upon the wax and the matrix to steady them, and with a warmed burnisher—right and left burnishers are designed for the purpose—placed between the matrix and the adjoining tooth, force the matrix toward the gingival margin of the cavity, working it in and out so that the excess wax flows lingually and buccally and over the gingival margin. Do this first on the buccal, then on the lingual, and perhaps repeat on the buccal surface.

After finishing the distal side do the same on the mesial. Then flow a little soft wax on the mesial and disto-occlusal sides where it was cut away down to the contact point. Proceed to finish the other margin as you always have. Now, when the inlay is removed it cannot catch on the adjoining tooth surface and be disturbed. It will show the exact contact point, where a little hot wax may be dropped to compensate for polishing, or it may be left and a little 22-k. solder flowed in after the inlay is cast. If the wax should break away or pull away from a margin, never try to add hot wax over that point to restore it, but sink a hot flat burnisher into the wax about a millimeter from the defect, and press the thin softened wax toward the defective margin until it bulges out over the margin. Then flow your hot wax into the crevice thus produced. It does not take as long to do this as to tell about it, and once this technic is fully mastered it is very simple and accurate.—R. OTTOLENGUI, *Dental Items of Interest*.—(*The Dental Cosmos*.)

TO MAKE A COTTON-ROLL CONTAINER.—Take the glass jars that are found on the market filled with smoking tobacco and wash thoroughly, remove labels and polish. I find the ones with the largest mouth to be the best.—H. V. TALBOT, D.D.S., Morristown, Ind.

IMPROVING TEETH BY GRINDING.—The sentiment which often restrains us from trimming up an elongated tooth in the opposite jaw "because it is a perfectly good tooth" is a fallacy which frequently gives rise to a very faulty articulation, and is for the same reason a misplaced emotion—as from a rational consideration of the entire mouth. As a unit we must conclude that such a tooth may be a sound tooth, but is not a good tooth until it is made to function normally.—F. A. ORTON, *Dominion Dental Journal*.—*The Pacific Dental Gazette*.

INSERTING SILICATE CEMENTS.—It is by no means necessary to always use the rubber dam in inserting the silicates. What is necessary is absolute dryness for several minutes. Secure this in any way you choose and the results will be good.—ARTHUR G. SMITH, D.D.S., Peoria, Ill., *The Dental Review*.

PROTECTING THE EYES WHILE CASTING.—To watch the glare of a molten mass of gold without protecting the eye is injurious. A perfect vision of the gold may be had without subjecting the eye to strain by closing the fingers of the hand into the palm in the form of a funnel, and peeping with one eye, through this funnel, while closing the other eye. This excludes all glare and enables the operator to see most perfectly the condition of the molten gold.—EDITOR, *The Dental Review*.

A QUICK EMERGENCY REPAIR.—I have never seen this "stunt" in print, while no doubt it is old to many, yet the idea may be new to some. It will sometimes be found a valuable aid in an emergency case.

A patient having lost a tooth in the front of the mouth, wanted something done immediately, as she had an important engagement that day. My time was all engaged for several days; however, I selected a vulcanite plate tooth from my tooth cabinet, took a couple of pieces of regulating wire and twisted one around each pin of the tooth, warmed some gutta-percha and pressed it over the heads of the pins and wire, and fitted the tooth into the space of the missing one, and ligated it to the tooth on each side. The patient wore the tooth for several days, until I could find time for a permanent repair.

The whole procedure took about five minutes.—RALPH W. BABCOCK, D.D.S., New York, N. Y., *The Dental Cosmos*.

HOW TO PREVENT A PERIODONTAL ABSCESS.—Wash mouth out, or spray the part with a good antiseptic solution (preferably a weak solution of lysol, 10 minims to a half glass of warm water). Sterilize the part by drying with alcohol, followed by wiping it with iodine on a pellet of cotton. I then give a hypodermic injection, using the regular local anesthetic, around and into the dense tissue; wait one minute, incise with abscess lance (Thus +), and let the pus out by using slight and steady pressure around the area. Then wash out wound with peroxide of hydrogen by immersing small pellet of cotton in the above liquid and pushing it gently into the area. I then take a new round bur place in dental engine. Sterilize it by placing it in alcohol, then passing it through the flame, and bur right through the opening to the peridental membrane and seat of the abscess, running the bur rapidly, steadily, and evenly over it until I feel I have entirely removed all overlying diseased tissue (This is all done without the least pain). Wash out and stop bleeding. Mix a thin paste of this preparation liquid and paste on slab, roll a few threads of absorbent cotton between the fingers, and cut to length and shape. Similar to that employed in placing treatment in a root canal; saturate it with the mixture of Oxpara and with blunt pointed instrument push it through the opening to the peridental membrane, wipe surface with alcohol. Instruct patient not to remove the dressing, but in case it should work itself out before the next sitting, it will be all right. Next sitting in two days. If the treatment has not worked itself out, remove it and clean part of all dead tissue, wash out with antiseptic solution, dry with absorbent cotton and saturate with aconite and iodine and discharge patient. Regeneration of tissue takes place, and part heals rapidly. After such a treatment I have never known of a single case occurring in my practice, and I have treated several.—F. A. SEALY, New Haven, Conn.

[I would suggest that you should be sure that canals are thoroughly and aseptically filled to prevent reinfection from that source. X-ray pictures are a big help in showing you extent of denuded area requiring curettement, as well as degree of perfection of root canal fillings. Would suggest further that the cotton and Oxpara dressing is wholly unnecessary. I think you will find that if curetted cavity is syringed out thoroughly with normal salt or any mild antiseptic solution and allowed to fill immediately with a healthy blood clot, healing will be just as prompt and satisfactory, if not more so, as when cavity is packed with Oxpara or anything else.—V. C. S.]

CORRECTION—for page 497, August DIGEST. The address of Dr. Lloyd C. Robinson was erroneously given as Cullman, Ala. It should have been Morrisville, Vt.

THE BEST OF CURRENT THOUGHT

[*The Dental Review*, August, 1917]

Original Communications

- What Shall Be Done with Pulpless Teeth? By Thomas L. Gilmer.
 Limitations of the X-ray in Dentistry. By F. S. O'Hara.
 The Great Need of Dental Service in the Army and Navy. By Donald M. Gallie.
 The Great Need of Dental Service in the Army and Navy. By C. N. Johnson.
 Reflex Disturbances Due to Impacted Teeth. By A. H. Mueller.
 The Big Worry. By Committee in Law.
 Strawberries. By E. F. Schewe.
 Illinois State Dental Society, Fifty-third Annual Meeting, Held at Quincy, May 8-11, 1917.
 Chicago Odontological Society.
 A Loss That is Overlooked.—Editorial.
 Letters to a Recent Graduate, No. VIII.

[*The Dental Cosmos*, August, 1917]

Original Communications

- A Call for Standardization in Root-canal Treatment. By Arthur B. Crane, D.D.S.
 The Importance of a Correct Diagnosis of Gingivitis and Suppurative Pericementitis. By
 Ivan R. Cottrell, D.M.D.
 The Electro-therapeutic Action of Certain Ions. By Ernest Sturridge, D.D.S., L.D.S.
 Mistakes Made in Root-canal Work. By Wm. A. Spring, D.D.S.
 What Dentistry Has Done in the Present War in Europe. By Herbert L. Wheeler, D.D.S.
 Anchorage of Alloy Fillings in Badly Decayed Teeth, and the Use of the Matrix. By W. S.
 Payson, D.D.S.
 What Should Be Our Attitude Toward the Medical Profession? By Herman Ausubel,
 D.D.S.
 Report of a Case of Distal Occlusion, Showing Results of One Treatment. By F. L. Stanton,
 D.D.S.
 Co-operation Between Dentists and Physicians.
 Need for Intelligent Diagnosis of So-called Pyorrheal Conditions.—Correspondence.
 Virginia State Dental Association.
 Northeastern Dental Association.
 Standardization of Dental Operative Procedures.
 Review of Current Dental Literature.
 Periscope.
 Dr. Wm. M. Wright—Obituary.

[*The Dental Register*, July, 1917]

PATRIOTIC INFLAMMATION

This is a time of much unrest on account of the extraordinary issues which are to be met and properly adjusted. The dental profession like all other callings will need to do some careful thinking and act most soberly to avoid making serious blunders consequent on acting hastily, or under the excitement of the stirring events of preparations for taking up our part in this great world war. It is not yet quite clear just what part the dental profession will be called upon to assume the responsibility of maintaining. Our work should be closely attached to that of the medical profession, and we should be ready to take our place when it is clearly assigned to us. In the first place, it should not be expected that we can rush into war service without adequate leadership. We know from information that comes to us that England and France made the mistake of allowing their physicians and dentists to enlist in large numbers in the regular military service; and now, because of accidents in the battle front, they are woefully lacking in medical service, both for the army and civilian populations in those countries. This happened because the medical and dental professions in those countries were carried away with so much loyal patriotism that they did not take time to look ahead to the time that has actually overtaken them, when it is necessary to have a reserve corps that can repair the damages done to their soldiers so that they can be returned to duty at the front. They are now making heavy demands on the medical resources of this country, and unless we face this issue courageously and wisely we shall be short of similar resources before we know it. Canadian dentists have managed this matter better and we shall do well to follow their example so far as possible. They perfected an organization and selected competent leaders who have had the support of the Canadian Government, and it is safe to say, judging from the reports at hand, that their work abroad is most efficiently done, and they are in good condition to carry out their program to the end of the war. It seems to us that what we need more than anything else now is just such competent leadership. There should be established as promptly as possible a competent dental leadership that has a definite authority, that will put the dental corps into the army on a definite basis. At present we hear of all sorts of dentists getting prepared for service and willing to leave important work at home to serve in the army. Some are fit and others not. Students just graduating from college can do some kinds of dental service, but they can not, for lack of experience, be delegated to important surgical or prosthetic restorative service. Some of the men offering are not physically qualified, and

others are needed at home more than in the army. The teachers in our schools should not be taken away, as this war may last years and we shall need more dentists in the next few years than ever before. Therefore it appears to be a time for thoughtful preparation rather than for reckless or extravagant squandering of our resources. We all want to do our part, but for the most part we don't know what our part should be, and there is danger that out of our enthusiasm we may do the wrong thing. We have already a committee which is coöperating with the surgeon general of the army, and if we can only be patient enough to wait until this committee can say definitely what it is that we can do to the best advantage it will be better than for the individual or even the so-called units to act independently. There is so much anxiety and impatience manifested that we hope this committee may get its plans before the profession at as early a date as possible. In the meantime let us refrain from acting precipitately, and without some definite proposition that might prevent a thorough and efficient organization that will bring credit to our profession because of efficient service. In short, let us resolve that we are in this war to see it through, and that it will be infinitely wiser for us to coöperate on a definite plan than to spend ourselves quickly in personal endeavors. Efficiency in this business should result most surely from coöperation in an organized effort. Our excitement is destructive in its tendencies, and we need to be determinedly constructive.

[*The Dominion Dental Journal*, July, 1917]

Original Communications

Crown and Bridgework. By Forrest H. Orton, D.D.S., Minneapolis.

The Work of the C.A.D.C. in England. By Capt. J. A. Stewart, Shoreham Camp.

Infection in Cutaneous Disorders—Hugh Mackay, M.D., Winnipeg, Man.

Women's Auxiliary, No. 2 Military Division, Canada, President's Address. By Mrs. A. E. Webster.

Treatment of Fractured Mandible Accompanying Gunshot Wounds.

National Dental Convention.

Union Dental Convention.

Standards in Dentistry During War Time.

Editorial Notes.

Ayton Richey Leggo. *Obituary*.

[*The International Journal of Orthodontia*, July, 1917]

Original Articles

Orthodontia—Its Purpose, Problems and Possibilities. By Bernhard Wolf Weinberger, D.D.S., New York City.

- Coöperation of Dentist and Orthodontist. By J. Lowe Young, D.D.S., New York City.
 Orthodontic Mechanics: Dental Engineering. By Rudolph L. Hanau, Pittsburgh, Pa.
 A Study of Some Dental Anomalies. By B. Frank Gray, D.D.S., Colorado Springs, Colo.
 The Dental Radiogram—Its Value, Its Abuse, and Some Points in Its Interpretation.
 By Leland E. Carter, D.D.S., San Francisco, Calif.
 Method for Dental Stereoroentgenography. By Henri Letord, D.D.S., and Charles G.
 Lunan, El Paso, Texas.
 The System of Trade Journals.
 A Need for the Regulation of Specialists.
 Orthodontic Mechanics.
 Partial Program of the National Dental Association.
 The Seventeenth Annual Meeting of the American Society of Orthodontists.

[*The Pacific Dental Gazette*, July, 1917]

Partial Contents

- Local Anesthesia.
 President's Address.
 To the Young Dental Graduate.—Editorial.
 Examples of a Dietary That Will Not Produce Caries and One That Will.
 Ethyl Chlorid Spray for Pain.
 Gingivitis Due to Faulty Dental Operations.
 Paper Cups as Plaster-Mixing Bowls
 Facilitating the Polishing of Small Appliances.
 Roentgenography and Dental Pathology.
 Health of Rural School Children.
 Suggestions in Inlay Casting.
 Pacific Coast Society of Orthodontists—Discussion of Paper by Dr. D. Arthur Johnston.
 Entitled "Some Suggestions as to Prophylactic Measures for the Orthodontist."

• DENTISTRY IN SOUTH AMERICA •

HARRY E. HOLADAY, D.D.S., KANSAS CITY, MO.

There is a population of about eight million people in the Republic of Argentine who are served by about eight hundred registered dentists. Of this number, only nine are North Americans. Three hundred of these dentists are located in Buenos Aires, the capital and principal city, which has a population of more than a million and a half.

It was the writer's good fortune recently to visit some of the South American countries and his experiences and observations will no doubt be of interest to many, and especially those who are contemplating some foreign field in which to pursue their vocation. The remarks will be confined particularly to the Republic of Argentina. However, the same conditions prevail, with slight variations perhaps, in the other Republics.

The law regulating the practice of dentistry also applies to medicine and pharmacy and requires that one must obtain a title from the National Board of Hygiene to practice. In order to gain this title, one must take and pass an examination given orally in Spanish (Portuguese in Brazil) by the faculty of the National Dental College. It is necessary that you present your diploma, which must previously have been signed and sworn to as genuine, and bear the official seals and signatures of the Dean of the College issuing the diploma, the Governor of the state in which the college is situated, the Ambassador at Washington representing the country in which you wish to register and the Ambassador representing the United States. The examination fee is 1,000 pesos (about \$430).

The North American dentists referred to above enjoy large and lucrative practices because they have demonstrated the superiority of the North American dentists and dentistry—not by glaring signs and advertisements, but by honest and conscientious efforts, and they are to be congratulated. In this connection I might say that many men with unpronounceable names have signs declaring themselves to be “Dentist Nort Americana.” However, there are some who have received their dental training in the United States.

The larger per cent. of the native dentists are very crude workmen and many of their operations are almost criminal. It was a unique experience to visit the office of a native who knew not the importance of removing the pulp and properly filling the canals. He had never used a broach or a gutta-percha canal point. In most cases, the attempts of these native practitioners at restorations of any kind are most primitive.

The National Dental School at Buenos Aires ranks well in the teaching of the theoretical branches, but the practical side is being fearfully neglected and slighted, and the result is that the graduates are very inferior workmen, whose methods are indeed primitive.

Many of the results of modern dentistry which we have been enjoying have not reached even the most progressive.

The fees received would seem fabulous to the average American dentist. The following charges are usual:

Amalgam.	up to 15 pesos (about \$ 6.50)
Prophylactic treatment.	up to 15 pesos
Gold inlay or gold filling.	40 pesos (about \$17.00)
Crown and bridge, per tooth.	up to 60 pesos (about \$26.00)
Extracting.	up to 10 pesos (about \$4.25)
Vulcanite varies from 50 to 250 pesos per denture.	

But one must remember that expenses are fabulous also. The

customs of the country demand a great deal of ostentatious display. Rents are high and large offices are required with at least two waiting rooms and reception hall with a maid or man to attend the door, a private office with a business secretary, the laboratory with the mechanic and assistant, and a nurse or two assisting the operators. Supplies and fixtures are expensive owing to high freight tariff and revenue tax.

—*The Western Dental Journal.*

THE WILLARD PYORRHEA TREATMENT

OREN ONEAL'S NEW BRAND OF QUACKERY IS BARRED FROM THE
UNITED STATES MAILS

(Concluded)

THE "TREATMENT"

The ingredients in the Willard treatment were analyzed by the Bureau of Chemistry, Department of Agriculture, and the government's report gives a detailed analysis of the preparations. The findings of the government chemists can be summarized as follows:

DR. WILLARD'S K-3 TABLETS.—These were sugar coated tablets with a menthol flavor consisting essentially of the sulphocarbolates of zinc and calcium and a small quantity of the bismuth salt. Practically half of the tablet was made up of a mixture of starch, sugar, and talc.

DR. WILLARD'S L-2 TABLETS.—These were light tan in color and contained washing soda, baking soda, Glauber salts and resins with a trace of colchicin. Over 38 per cent. of the tablets was a mixture of starch and talc.

LAXATIVE LIVER TONIC TABLETS.—These contained some laxative drug such as cascara, aloes or podophyllin. Over 70 per cent. of the tablet was made up of a mixture of chalk, gypsum, talc, and sugar.

DR. WILLARD'S DENTOL.—These were tablets that the purchaser was told to dissolve in water and use the solution as a mouth wash. Great stress was laid on the fact that the tablets contained emetin. The federal chemists found that over 96 per cent. of the tablets was made up of milk sugar and boric acid, while there were small quantities of menthol, thymol and eucalyptol. The total ipecac alkaloids (emetin) found by the chemists was only fifteen-hundredths of 1 per cent. The Willard concern claimed that paraform was also present in these tablets but it was not found.

DENTIFIRM.—This, Willard claimed, was "something absolutely new

to the dental profession—a massage preparation for the gums of rare medicinal, as well as unusual cleansing qualities.” The federal chemists found that it was a mixture of glycerin, starch, borax, chalk, and soap flavored with oil of cloves and colored with a red dye!

Quoting from the solicitor’s memorandum:

“ . . . The treatment contains a small amount of emetin, one of the constituents of ipecac, which in recent years has been brought forward as efficacious in the treatment of pyorrhea. A difference of opinion exists among the profession as to the value of emetin applied subcutaneously by injection into the arm or by the use of a blunt needle forcing the solution into the pus pockets which are found about pyorrheal teeth. The Willard treatment does not contemplate the use of emetin in either of these ways. Instead, a small amount of emetin is put in the ‘dentifirm’ paste with which the patient massages his gums. The expert witnesses agreed that even were emetin possessed of value its administration in such small doses as are contained in the Willard treatment and in the manner prescribed would have no effect.”

The government called oral surgeons, pathologists, and dentists, all of whom agreed that Willard’s home treatment administered by the patient himself at his home would be ineffective to cure or relieve pyorrhea. An interesting feature of the government’s investigation was the documentary evidence collected by Inspector D. F. Angier of the Chicago division who, as readers of *The Journal* will remember, has done particularly valuable work in investigating other medical mail-order frauds. In the course of his investigations of the Willard concern Inspector Angier wrote to Willard, under various names, describing various mouth disorders, none of which indicated pyorrhea in any form. In reply to all of his inquiries, the inspector received in every case the booklet “How to Save Your Teeth, A Home Treatment for Pyorrhea” which has already been quoted from. He also received the customary form letters and circular matter soliciting orders for the Willard treatment.

In one instance the inspector sent \$1 for a “trial order” of the “treatment.” The treatment was sent and thereafter Mr. Angier received a series of form letters urging him to purchase the full treatment which was offered at \$4, instead of the usual \$5. In the particular instance in which this “trial treatment” had been sent, Willard had already acknowledged in a letter to Inspector Angier that the case described was not one of pyorrhea but a condition which the Willard treatment was not claimed to benefit. To quote further from the solicitor’s memorandum:

“All of the letters received by the inspector in the course of the correspondence were signed ‘F. W. Willard, M.D., D.D.S.’ and even the form letters have a decidedly personal tone calculated to lead the patient

to believe that they were written by Dr. Willard. Dr. Willard on cross-examination stated that he had no knowledge of the letter in which a case was diagnosed as a mild case of pyorrhea and it appeared as a matter of fact that a rubber stamp signature was used. The rubber stamp was so excellent an imitation of Dr. Willard's signature that he himself on cross-

PYORRHEA MAY BE CONQUERED

MAY BE

Chemist's Analysis of Dr. Willard's Treatment

Says each ingredient is a fortunate one and remedies are made up carefully

SUBJECT: 1075 N. WABASH AVENUE
CHICAGO, ILL.

OFFICE: 1075 N. WABASH BLVD. 2ND FLOOR
CHICAGO, ILL.

Physicians' Diagnostic Laboratory

INSTITUTE FOR RESEARCH WORK & VACCINE

DR. ROBERT UNZICKER
FACULTY ASSISTANT AT THE UNIVERSITY OF CHICAGO

CHICAGO, ILL. May 24th 1915

Department for Chemicals & Foodstuffs.

I hereby certify, that I have examined and analyzed the preparations manufactured by Dr. F. W. Willard, Inc., 37 So. Wabash Ave., Chicago, Ill., comprising his "New Treatment" for these diseases of the mouth commonly termed Pyorrhea or Riggs Disease.

I have the pleasure in expressing my findings in regard to these remedies as follows:

Examination shows that the treatment consists of four different preparations, partly for local treatment in the mouth and partly for internal use, the ingredients being plainly and accurately indicated on the packages.

The treatment is fully in accord with the theory and practice accepted by dental and medical authorities and is directed to the correction of the pathological conditions obtaining, viz: the septic mouth infection and the associate systemic disturbance, essentially an autointoxication.

I find from my analysis (a copy of which I am enclosing herewith) that the proportion of each component is a fortunate one and the composition are made up carefully.

The amount of Eucaine used, No. III, conforms to that recommended in a recent issue of the Journal of the American Medical Association.

There can be no doubt, that the preparations contain the best and most efficient ingredients known at present to the dental and medical profession for the conditions they are recommended for.

PHYSICIANS' DIAGNOSTIC LABORATORY
DEPARTMENT FOR FOODSTUFFS & CHEMICALS

Dr. Robert Unzicker
Medical Director

Noted authorities NOW say Pyorrhea (or Riggs Disease)
CAN BE CURED

One of the traditions of mail-order quackery is that some sort of an analytical report should be published endorsing the "treatment" advertised. The Willard-Oneal concern held to the tradition. Here is a reproduction, greatly reduced, of a self-styled "analysis" of the Willard treatment issued by one "Dr. Robert Unzicker," who did business under the imposing title "Physicians Diagnostic Laboratory." So far as our records show, Unzicker is not a physician.

examination was unable to state whether letters had been actually signed by him or stamped. There is no doubt that in all cases the patient thought he was receiving a personal letter from Dr. Willard, and further that it was the intention of both the owners of the concern and Dr. Wil-

lard to create the impression that the patient was receiving his personal attention and professional advice.

SUMMARY

The whole scheme is well described toward the end of the solicitor's memorandum thus:

"In summary, it may be said that the respondents are selling through the mails a worthless home treatment for pyorrhea to any one who will buy it, irrespective of whether or not he has pyorrhea, or, if he has pyorrhea, irrespective of whether or not it has reached that incurable stage which they admit exist; that in order to increase their business they are leading persons suffering from minor mouth disorders to believe themselves to be afflicted with pyorrhea, claiming it to be a 'loose term' whereas in fact it has a definite medical significance; that the public has already been defrauded of several hundred thousand dollars through the operations of the respondents; and finally that if prompt steps are not taken to prevent further use of the mails by the respondents the public will not only be further defrauded, but those suffering from pyorrhea will be discouraged from securing proper treatment which might save the teeth if taken in time."

From the memorandum it seems that Willard and Oneal made a strenuous effort to continue taking in the \$75,000 annually and submitted to the post office department a new set of advertising urging that they had completely modified the claims previously made. They stipulated that if permitted to continue in business they would not advertise their treatment for pyorrhea or Riggs' disease nor use the mails to solicit money for the sale of a pyorrhea treatment. The solicitor of the Post Office Department called attention to the fact that under the stipulations suggested the Willard treatment could still be advertised and sold through the mails provided no mention was made of pyorrhea or Riggs' disease. As Willard-Oneal had claimed throughout the hearing that the "Willard Treatment" was specially designed for the relief of pyorrhea, the suggested stipulation was a virtual admission that its sale for such a purpose was fraudulent. The solicitor pointed out that it was difficult to understand why it should be deemed valuable for any other purpose than the one for which it was claimed to be specially prepared. The memorandum closed with the following recommendation:

"After a careful consideration of all of the circumstances of this case I am convinced that it is one in which the protection of the public demands the issuance of a fraud order . . . I find that this is a scheme for obtaining money through the mails by means of false and fraudulent pre-

tenses, representations, and promises, and therefore recommend that a fraud order be issued against the names appearing in the caption of this memorandum."

The fraud order was issued, Dec. 28, 1916.—*Journal American Medical Association*, Feb. 10, 1917.

DENTISTS IN THE ARMY

As the United States is preparing to do its part in the great world conflict in order that democratic government may exist, and that principle founded upon personal freedom will not be brushed aside by military rule, we are now confronted with the problem as to what is the duty of the dentist in the present world conflict.

About a year ago there was organized the Preparedness League of American Dentists, the object of which was, that each member of the League should prepare the mouth of one recruit in such a manner that he would be able to perform military service. A large number of men joined the Preparedness League of American Dentists because the initiation fee was only one dollar, and they considered such a move a patriotic measure regardless of whether they were called upon to do anything or not. Up to the present time, a large percentage of that membership have performed their service by preparing the mouth of one recruit in such a manner so that he can pass military examination, but there are also a large number who have not done anything.

It is hoped that every man in the dental profession will do his part in preparing the teeth of one recruit in such a manner that he will be able to serve his country. It is not expected that every dentist will be able to perform military service, because there are a large number of men who are better fitted for that purpose than the dental profession. However, it must be remembered that a number of dentists will be required in the army, and the number required will be much larger than that provided for by army regulations.

At the present time, one dentist is allotted to about every one thousand soldiers. Every one knows that in time of peace it is impossible for one dentist to keep one thousand mouths in order, giving them the proper dental and prophylactic treatment which they should receive. It is a fact that there has been provided a Reserve Dental Corps to which dentists can be admitted by passing a physical and professional examination before a board composed of two army dental men and one medical man, proving their fitness for this service. They are then appointed for

five years subject to call upon invasion or threatened invasion of the country by an enemy or upon a declaration of war.

The men of the Reserve Dental Corps, have the rank of first lieutenant with a salary of \$2,000 a year when in service. They are allowed all of the allotments going with their rank while engaged in service; and if injured in service, receive the same pensions as other men of their rank. We are informed that there are a large number of men who have applied for admission to the Reserve Dental Corps which is as it should be. We have also been informed of the large number who have applied for admission into the Reserve Corps, some have attempted to get a rank higher than lieutenant, and we have been informed that even some have made applications for the rank of major without having had any previous military service. Of course, such things in the eyes of military men make the dental profession appear ridiculous, and it is hoped that those who enter the Reserve Dental Corps will remember that there are a great many men who are better fitted for military service than is the dentist.

In other words, the dentist has a very important service to perform, but he should be satisfied in performing that service. We have also learned that a large number of men who were applying for admission to the Reserve Dental Corps hope or are of the opinion that they will be allowed or permitted to do a large amount of oral surgery and not be called upon to perform ordinary dental operations. As a matter of fact, the men which the army and navy need to-day are men who will do ordinary dental work and prepare the mouths of army and navy recruits in such a manner that they will be able to perform the proper military service.

There is a large amount of "preparedness" work needed which can be performed by dentists, and some one must do the ordinary dental work. Every dentist who enters the Reserve Dental Corps should not expect to do oral surgery because it is our hope that there will be very little demand for oral surgery which always comes after the conflict. The dentist's work is necessarily one of preparedness, and must be rendered before the actual army and navy engagements take place. Of course, upon the field of battle, in the line hospitals and base hospitals, some one will have to do oral surgery, and at that time it is very probable that the dentist with the first contingent will be the one who will get the major amount of oral surgery.

However, it must be remembered that the work of the oral surgeon will be comparatively small compared to the work of the general dentist, and we are therefore making the plea in the name of patriotism that the dental profession do their part as dentists because they will have as important a part in winning this battle by doing their work well along dental lines and oral prophylactic lines, as will any other group of men. We be-

lieve, therefore, that the dentists who enter the army and navy should be dentists first and oral surgeons afterwards.

In regard to official rating and standing in the army and navy, if they are qualified, do their work well, perform the tasks which are before them to-day, to-morrow, and the next day, the best they possibly can, there is no question but that they will be in line for promotion as well as any other branch of men. It must be remembered in raising a large army and navy, as the nation hopes to do, each group of men will be compelled to do the work allotted to it. We hope the dental profession will not make itself appear ridiculous by trying to assume responsibilities or do a line of work which is entirely beyond it, and not be content to do that which it is supposed and qualified to do. The importance of the dentist in the army can not be overestimated, but fulfilling that importance rests with the dentist first, last, and always.

We have observed in our conversations with various men who are contemplating joining the Reserve Dental Corps that they seem to be ashamed to admit that they are dentists, and all of them are trying to become oral surgeons. The man who is not ashamed to fight for his country and his flag should also not be ashamed of his profession, and especially when the profession is one of the most important and one of the most useful in the army and navy to-day.—*The International Journal of Orthodontia*.

THE IMPORTANCE OF CORRECT POSTURE WITH ESPECIAL REFERENCE TO THE USE OF THE FEET

C. STEWART WRIGHT, M.D., TORONTO

[In this article Dr. Wright discusses a question seldom considered by the average dentist, and yet one of vital importance to every dental practitioner. It is generally recognized that members of the dental profession are particularly susceptible to foot-trouble and shoulder-stoop. Read Dr. Wright's article and endeavor to maintain "correct posture at the chair."—EDITOR OF *Oral Health*.]

In considering for a few minutes some points relative to the importance of correct posture, I believe we may, with advantage, start at the ground and work up, though I believe this topic usually conveys to the mind a consideration of the body only.

We will, therefore, direct our attention first to a consideration of the correct use of the feet. I may state at the outset that the great majority of people toe out too much. This is probably because, as a race, we have been taught to do so. Until recently our military and

school drill taught us so, and the ordinary footwear is usually designed to influence us in that way.

All have heard the expression, "he is pigeon-toed," or "he walks like an Indian," derisively applied to one who assumed in walking or standing a posture which I hope to show more nearly approaches mechanical efficiency than does the attitude so commonly assumed.

The child who uses his feet with the intoe posture is constantly teased by other members of the family and constantly corrected by the parents. In fact, in my capacity as a surgeon, whose attention is largely devoted to dealing with deformities of various kinds, it is not infrequently that I am consulted by anxious parents about a child who happens to walk in this manner.

Since I have made this statement that most people toe out too much, I will endeavor to demonstrate why it is so.

In considering the use of the feet we will have to include a brief consideration of the knee and ankle joints as well as those of the foot proper.

As you know, the knee is a hinge joint having practically only a back and forward movement. The ankle joint is similar, having only a back and forward movement. The next point of movement of any appreciable degree in the use of the foot is at the metatarsophalangeal joint, or where the toes join the foot, and these again are in the same plane with a back and forward movement only. It will be further noted that this small row of joints from within outward angle backward about 20 degrees from a straight line or corresponding to the usual wrinkle of the shoe at that point. With these three sets of joints acting in the same plane and having the same type of motion, it follows that they would act in nearly a straight line, and properly used, they do.

Now it will be found that if the foot is placed gently down, and the knee and ankle bent as in the act of walking, if it is performed with the greatest ease and without strain or twist of the knee or ankle, the knee will or should fall directly over the great toe (charging).

At the same time all the toe joints are brought into use in bending the foot further forward, each bearing its portion and assisting in distributing the weight.

Now if we grant, and we must from an anatomical study of these joints, that to avoid strain they should be used in this way, it follows that if the feet are everted or turned out and in the act of walking one adheres to correct principles as regards the use of the knee, ankle and toe joints, then progress must be made by a zigzag course, which would be very awkward indeed.

But you will say people do not walk that way even though the feet are turned out considerably. Then how is the appearance overcome.

First, by a little twisting and strain at the knee, a little more on the ankle, next on the arch of the foot; then instead of bearing on the five toes all the weight of progression in the foot is carried on the great toe joint, instead of being evenly distributed over the five toes, and the general line of weight bearing, which is in line with the shin bone, is carried to the inner side of the foot instead of to its centre.

This results in a constant overwork and injury of the great toe joint, and is the greatest single factor in producing the ever present bunion, or at least an enlarged and tender joint. It effects a weakening of the ankle and overstrain and breaking down of the long arch of the foot, producing flat foot and sometimes weak and painful knees. Some very stout individuals who are entirely unable to stand this modified strain do actually assume the zigzag gait mentioned above, and I am sure every one has observed this gait on the street.

In different individuals there may be great variations in the amount of suffering sustained in the different joints; quite frequently painful knees may be entirely relieved by adopting a correct use of the feet.

The most frequent location for suffering, however, is in the long arch, due to overstrain and the production of flat feet.

However, this is a problem which involves more than the consideration of the detrimental influence on individual joints and muscles, but it is relative to the whole question of the conservation of the energy and the maintenance of the posture of the body as a whole. Not only do the immediate joints suffer, but as a consequence the whole organism.

Now, if instead of holding the foot turned out, we bring it into a straight line ahead, it will be observed that when the knee and ankle bend they do so with the least effort; the five toes bend in the motion of the foot, and the line of weight bearing falls directly through the centre.

This leads us to a consideration of the importance of correct posture of the body. Raise the chest just as high as possible without raising the shoulders. Make an effort, in fact, to hold the shoulders down. Do not throw the shoulders back or make any effort to draw the abdomen in, simply raise the chest and the result will bring the spinal column into position and raise all the vital organs to their normal height.

I do wish, however, to point out that due attention to the facts presented regarding the correct uses of the feet will have a very important bearing upon the ease with which one will assume and maintain a correct posture of the body. Certainly, if the foundation is at fault the superstructure must suffer.—*Oral Health.*

SOCIETY AND OTHER NOTES

THIRD ANNUAL REPORT OF THE DENTAL COMMITTEE OF THE BRIDGEPORT, CONNECTICUT, BOARD OF HEALTH

To the Bridgeport Board of Health:

GENTLEMEN:

The Dental Committee submits the third annual report of the work accomplished for the children in the public schools from September 20, 1916, to June 20, 1917.

The dental corps comprised fourteen dental hygienists, two supervisors and one woman dentist.

Total number of individual children prophylactic treatments given	12,537
Total number of prophylactic treatments given	20,885
Total number of children receiving one treatment	4,189
Total number of children receiving two treatments	8,348

In our first visit to all the schools this year prophylactic treatments were given to the children of the first, second, third, fourth and part of the fifth grades. Owing to the influx of new children in the lower grades at the opening of the second semester, we were obliged to confine the work to the first, second and third grades.

Aside from the actual cleaning of the children's teeth, the educational features are reaching a great many more children than the limited number of those receiving the benefits of prophylactic treatment. This educational work is carried on by means of literature, class room talks, stereopticon lectures and tooth brush drills. It is felt that this last phase of the supervisor's work is very important and every effort is made to present the subject of tooth brushing to the children in a way which will be educational and interesting.

The teachers have aided in many ways to assist the children in forming the habit of daily brushing. The number of children receiving this instruction was 19,849.

Further education in mouth hygiene is carried on by means of stereopticon lectures given to children above the third grade. When the dental clinic was established in 1914 the Dental Committee planned a series of lectures with appropriate literature to last over a period of four years. The lectures are each illustrated by fifty or more slides which are mainly original slides prepared by the Dental Committee. Each lecture is a continuation of a preceding one, the idea being to instruct the children first in the formation and eruption of the first teeth—as was done in 1914—with appropriate literature for the children and parent. In 1915 the slides and lecture covered the essential facts concerning the second teeth and the relation of foods to the formation and eruption of teeth, while this year's subject has been dental decay.

During the first two years the lectures were given by Drs. A. C. Fones and R. H. W. Strang but during the past year this work has been taken up very successfully by the supervisors, Miss House and Mrs. Hart, and they have lectured to 7,855 children. In addition to this Dr. Fones lectured to 2,290 children. The pamphlets which are profusely illustrated are distributed to the children following the lecture and are suitable reading for either the child or the parent.

The important work of saving the first permanent molar teeth is being carried on very successfully by Dr. Elizabeth Beatty, the school dentist. These six year molars are by far

the most important teeth in the denture and unless carefully safeguarded are lost early in life. Dr. Beatty confines her efforts to the filling of the very first, small cavities which appear in these teeth. The work is necessarily slow and tedious as the children are small and require careful handling, and we feel that the following report of Dr. Beatty's work for the year is very gratifying:

Total number of individual children having teeth filled.....	448
Total number of sittings.....	1,100
Total number of children worked for in the first grade.....	37
Total number of children worked for in second grade.....	373
Total number of children worked for in the third grade.....	38
Number of alloy fillings in permanent teeth.....	3,184
Number of cement fillings in permanent teeth.....	5
Number of gutta percha fillings in permanent teeth.....	1
Number of alloy fillings in temporary teeth.....	8
Treatments for relief of pain in permanent teeth.....	11
Treatments for relief of pain in temporary teeth.....	5
Extractions of permanent teeth.....	5
Extractions of temporary teeth.....	165
Total number of molars filled for children in lower grades.....	1,527

In addition to the work reported in these grades there were twenty-six (26) extractions and forty-four (44) treatments for relief of pain, for children in the higher grades.

Dr. Henry S. Riddell is still conducting the central clinic for the relief of pain and the extraction of badly decayed permanent teeth. The funds for this relief work are so limited that only the very poor can be allowed to avail themselves of his services. The operations performed were as follows:

123 Extractions
55 Treatments
8 Cement fillings
5 Amalgam fillings
9 Complete fillings (roots, etc.).

The total cost of this service amounted to \$84.50.

The summer clinics to meet the request for prophylactic treatment and instruction in the care of the mouth from children in the higher grades, have been established in the following schools: Lincoln, Barnum, Prospect, Shelton, Maplewood and Elias Howe. Any public school pupil may have his teeth cleaned at these clinics during the six weeks they are open.

All records of the work accomplished for the past year are being compiled in statistical form as usual.

We desire to again express our appreciation to the principals and teachers for their co-operation with us in this work.

Respectfully submitted,

W. J. McLAUGHLIN, D. D. S.
T. A. GANUNG, D. D. S.
R. H. W. STRANG, M. D., D. D. S.
J. H. CALLAHAN, D. D. S.
A. C. FONES, D. D. S., *Chairman*.

July 1, 1917.

COURSES IN ORAL HYGIENE ANNOUNCEMENT

1917-1918

COLUMBIA UNIVERSITY, CITY OF NEW YORK

GENERAL STATEMENT

The courses in oral hygiene provide one year of study in the hygiene of the mouth and related subjects. They are open to women only, and are designed primarily to train women for the practice of operative dental hygiene. They form, in spirit and purpose, a series of courses in one important aspect of preventive medicine.

Graduates who successfully pass the New York State Board Examination may, when licensed, practise dental hygiene, which includes the removal of lime deposits, accretions and stains from the exposed surfaces of teeth.

Licensed dental hygienists must operate under the general direction or supervision of a licensed dentist.

In order to qualify to take the New York State Board Examination, the applicant must be at least twenty years of age and of good moral character; and in addition to having had a preliminary training of at least one year in an accredited high school, must give evidence of having completed successfully a satisfactory course of study in oral hygiene in an incorporated dental dispensary or infirmary registered by the Board of Regents.

The lectures are given from 4 to 6 P. M. The clinical instruction begins in the Vanderbilt Dental Clinic at 9 A. M. This includes practical work by the student at the chair, and training as dental assistant.

ADMISSION

The qualifying certificate in oral hygiene, issued by the Department of Education, Albany, New York, is required for admission to these courses.

In order to maintain a high standard, the right is reserved to refuse to admit any applicant, to drop any student who is found for any reason to be unsuited for the work of a dental hygienist, and to make at any time such alterations or additions to this curriculum, or the requirements for admission, as may be found desirable or necessary.

REGISTRATION

The courses begin September 26, 1917, and new students must enter at that time. Students are required to register at the office of the Assistant Registrar, College of Physicians and Surgeons, 437 West 59th Street. A student in oral hygiene must register for one Session and must renew her registration in person at the beginning of the next Session. Students will be allowed to attend one lecture before registration and payment of fees. Registration for the Winter Session begins September 10, 1917, for the Spring Session, January 31, 1918. The Registrar's Office is open regularly from 10 A. M. to 5 P. M., except on Saturdays when the office closes at noon.

Applicants must secure from Assistant Commissioner of Higher Education, Albany, N. Y., a qualifying certificate in oral hygiene before applying for registration for this course.

Every student must pay a university fee of \$5.00, and tuition fees, \$75 for the winter session and \$75 for the spring.

REQUIREMENTS FOR CERTIFICATION

The candidate for certification must have met the requirements of regular attendance throughout the course. She must have performed well the required amount of clinical work—cleaning teeth, sterilization of instruments and clinical outfits, and instruction in tooth brushing, etc. She is required also to have passed examinations in all the subjects of the course. She must have presented a photograph (postcard size) of herself.

After the satisfactory completion of the prescribed courses in oral hygiene and the final examinations, the student is entitled to a certificate of work accomplished signed by the Assistant Registrar, which makes her eligible for the New York State Board examination, license, and registration.

Students who satisfactorily complete the course of study will be prepared to serve as:

1. Prophylactic operators on exposed surfaces of teeth.
2. Chair assistants to dentists, orthodontists, and oral surgeons.
3. Lecturers on dental hygiene to children in the public schools and to parents and teachers.
4. Statistical workers in dental office practice, hospital service, and clinical service.
5. Laboratory assistants in dental research.
6. Assistants to physicians, surgeons, and dentists to take charge of the sterilization of instruments, etc.

APPOINTMENTS

The Resident Director with her associates will endeavor to aid competent registered dental hygienists in obtaining positions in public institutions, dental offices, and any other places where their services may be of value.

PRIZES

LOUISE C. BALL, GOLD AND SILVER MEDALS

Annually three medals will be given by Dr. Louise C. Ball who founded the Courses in Oral Hygiene in New York City, July 10, 1916.

A gold medal will be awarded to the student attaining the highest average, and a silver medal for the second highest average for the final examinations in theory and practice, given at the close of the Spring Session.

A silver medal will be awarded to the student showing the greatest proficiency in the final examination in clinical operative dental hygiene.

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COMMENCEMENT OF THE COLLEGE OF DENTISTRY, UNIVERSITY OF SOUTHERN CALIFORNIA

The commencement exercises of the College of Dentistry, University of Southern California, were held at the Bible Institute, Los Angeles, California, June 7, 1917. The Commencement address was delivered by Bishop Adna Wright Leonard, D.D., LL.D., and the degree of Doctor of Dental Surgery was conferred by George F. Bovard, A.M., D.D., LL.D. President of the University, upon the graduates.

TWENTY-FIRST ANNUAL SESSION OF THE NATIONAL DENTAL ASSOCIATION

New York City, October 22, 23, 24, 25, 26, 1917.

(All sessions of the Board of Trustees, House of Delegates, General Sessions, Section Meetings, Clinics [except Surgical Clinics], exhibits will be held in Hotel Astor.)

The following additions may be announced to the programme as already published.

Monday, October 22nd.

Registration, Laurel Room, First Floor.

First Session—Board of Trustees, 11 A. M. (Rose Room—First Floor.)

House of Delegates.

Opening Session, 2 P. M. All Sessions of the House of Delegates will be held in the Rose Room, First Floor.

Second Session—Board of Trustees, 4 P. M. (Rose Room—First Floor.)

FIRST GENERAL SESSION

Hotel Astor. (Grand Ball Room—First Floor.)

Tuesday, October 23rd., 9 A. M.

Invocation

Address of Welcome—Gov. Charles S. Whitman, on behalf of State New York City

Mayor John P. Mitchel, on behalf of City Albany, N. Y.

President's Address—LaFayette L. Barber New York City

Oration—E. C. Rosenow (M.D.) Toledo, O.

A research member of the Memorial Institute for Infectious Diseases, Chicago, and Professor of Experimental Bacteriology in the University of Minnesota and the Mayo Institute.

SECOND GENERAL SESSION

Tuesday, October 23rd, 8 P. M.

(Grand Ball Room—First Floor.)

Research Department.

Pathological, Bacteriological and Clinical Studies.

"Dental Caries"—By Russell W. Bunting and U. G. Rickert (B.S., M.A.)

Work done in, and with the assistance of, the University of Michigan.

"A Study of the Pathology of the Peridental Membrane"—By Frederick B. Noyes.

Work done in, and with the assistance of, the University of Illinois.

"The Histopathology of Chronic Periodontitis and the Pathogenesis of Dental Root Cysts"
—By Thomas B. Hartzel and Arthur T. Henrici, (M.D.).

Work done in, and with the assistance of the University of Minnesota.

"A Comparative Study of Oral Focal Infections"—By Weston A. Price and Milton J. Damos (D.D.S.). Research Institute Laboratories, Cleveland, Ohio.

THIRD GENERAL SESSION

Wednesday, October 24th, 8 P.M.

(Grand Ball Room—First Floor.)

Herbert L. Wheeler, Chairman.....New York City

Dental Surgery and Restorative Prostheses in the European War.

Symposium—"Dental Surgery and Restorative Prostheses in the European War."

"War Dental Surgery"—By

"War Dental Restorative Prostheses"—By

It is expected that Mr. Robert Bacon, Ex-Embassador to France, will preside, and that the Surgeons General of both the Army and Navy will attend. A description of the work done in Europe will be given by one who has had experience there.

It is anticipated that both the Medical and Dental Professions will be represented.

There will also be pictures of "War Surgery."

HERBERT L. WHEELER, *Chairman.*

FOURTH GENERAL SESSION.

Thursday, October 25th, 8 P. M.

(Grand Ball Room—First Floor.)

Oral and Dental Hygiene—Mass Meeting.

Charles H. Oakman, Chairman.....Detroit, Mich.

"The Importance of Dental Infections as Related to Urinary Tract Diseases, with Particular Reference to Ureter Stricture and Its Equelae." Guy L. Hunner (S.B., M.D.), Johns Hopkins University, Baltimore, Md.

RESEARCH DEPARTMENT

Wednesday, October 24th, 1:30 P. M.

"Root Canal Fillings"—By John R. Callahan.

Work done in, and with the assistance of, the Cincinnati General Hospital.

"Studies Upon the Bacteriology of Dental Caries"—By Percy R. Howe.

Work done in, and with the assistance of, the Forsyth Dental Infirmary.

"Quantitative Determinations of Certain Organic Substances in Saliva and Their Relation to Oral Conditions"—By John A. Marshall (M.S., D.D.S.).

Work done in, and with the assistance of, the University of California.

"Electrolytic Medication—Physiological and Dental Aspects"—By Samuel E. Pond (B.H., A.M.) and Weston A. Price, Research Institute Laboratories, Cleveland, Ohio.

Thursday, October 25th, 9 A. M.

Chemical and Metallurgical Studies.

"Dental Cements"—By Marcus L. Ward.

Work done in, and with the assistance of, the University of Michigan.

"Progress of the Investigation of Mottled Enamel"—By Frederick S. McKay, Colorado Springs, Colo.

"Studies of Internal Secretions in Their Relation to the Development and Condition of the Teeth"—By William J. Gies (M.D., Ph.D.).

Work done in, and with the assistance of, the Columbia University.

"The Relative Efficiency of Medicaments for the Sterilizing of Tooth Structures"—By Matilda Moldenhauer (A.B., M.S.) and Weston A. Price, Research Institute Laboratories, Cleveland, Ohio.

PREPAREDNESS LEAGUE OF AMERICAN DENTISTS

Tuesday, October 23rd, 1:30 P. M.

(College Hall—Eighth Floor.)

"The Relations of the Dental to the Medical Corps of the Army"—By Victor C. Vaughan (M.D.) Ex-President of the American Medical Association, Member General Medical Board of the Council of National Defense, Washington, D. C.

"The Value of the Educational Work as Being Executed by the Preparedness League of American Dentists"—By Frank M. Casto, Cleveland, Ohio.

"Report of Sectional Units of League by States—A to N Inclusive."

Thursday, October 25th, 1:30 P. M.

"Stereopticon Lecture on Fractures of the Bones of the Face."

(Synopsis: This lecture will include the consideration and treatment of Gun Shot wounds; removing foreign substances; the sterilization of wounds; the proper adjustment of fragments and the means employed to mobilize them. In the treatment of injuries of the face, the primary step should be after removing foreign substances, to establish as nearly as possible, asepsis. The use of grafts of bone, modeling compound, hard rubber and metals to replace lost parts.)

"The Dental Ambulance in War"—By George B. Hayes, Neuilly.

"Report of Sectional Units of League by States—M to Z Inclusive."

ANESTHETISTS' SECTION

Wednesday, October 24th and 25th

R. OTTOLENGUI, *Publicity Committee.*

FUTURE EVENTS

September 5-8, 1917.—Annual Meeting American Society of Orthodontists, Excelsior Springs, Mo.—F. M. CASTO, Rose Bldg., Cleveland, O., *Secretary.*

September 26-28, 1917.—The 23d Annual Meeting of Northeastern Dental Association, the Hotel Bancroft, Worcester, Mass.—ALVIN A. HUNT, Hartford, Conn., *Secretary.*

October 19-20, 1917.—National Association of Dental Faculties, Hotel Astor, New York City.—CHARLES CHANNING ALLEN, Kansas City, Mo., *Secretary.*

October 22, 1917.—The Alumni of the Xi Psi Phi Fraternity dinner at Waldorf-Astoria Hotel, Fifth Ave. and 35th St., New York.—J. NORBERT GELSON, D.D.S., 282 Park Place, Brooklyn, N. Y., *Chairman Dinner Committee.*

October 22-23, 1917.—National Association of Dental Examiners, New York City.—J. A. WEST, Des Moines, Ia., *Secretary.*

October 23, 1917.—Second Annual Meeting of the Preparedness League, Concert Hall, Hotel Astor, New York. In conjunction with the N. D. A. Meeting.

October 22-26, 1917.—National Dental Association, New York City, Hotel Astor, Broadway and 44th St.—OTTO U. KING, Huntington, Ind., *Secretary.*

October 23-26, 1917.—Association of Military Dental Surgeons, New York City.

November, 12-17, 1917.—Indiana State Board of Dental Examiners, State House, Indianapolis, Ind.—H. C. McKITTRICK, Indianapolis, *Secretary.*

Dec. 4-6, 1917.—Ohio State Dental Society, Cleveland, Ohio.—F. R. CHAPMAN, 305 Shultz Bldg., Columbus, Ohio, *Secretary.*